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Ellen Bush, PC Magazine

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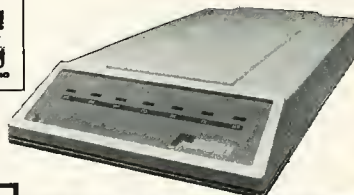
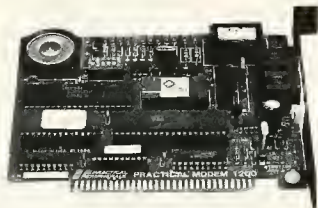
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1988  
**PROFILES**  
VOLUME 5 NUMBER 6 JANUARY



**ON THE COVER:**

Keeping track of your money, and staying on track with your investments can now be handled electronically. Art director, Susn Penn and photographer, Glenn Steiner make the point visually.

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Part 1



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## PUBLISHER'S NOTES



RICHARD STARKMAN

### A NEW READER SERVICE

In the computer publishing business, you can't afford to miss a trick. Being a "publishing" type, I find myself reading about 20 magazines per month (besides *PROFILES*). Of that 20, half are trade magazines for those in the publishing community, and half are computer magazines.

I find several computer publications vital for keeping up to date on the latest in technology, as well as for spotting new products that may be of interest to *PROFILES* readers. I am also kept informed and entertained by the scores of columnists published each month. Not only do these writers help guide readers through the blizzard of new products and technology, but they offer their insight and points of view on the microcomputer industry as a whole.

Of particular interest a few months ago was a piece by *PC World's* editor-in-chief (and PCW Communication Inc. chairman) David Bunnell. He was basically slapping the wrists of those of us publishing computer magazines by stating that "many computer magazines and newspapers are advertising-driven. Their purpose is to create an environment for ads." That may be true of some publications, but in the case of *PROFILES* and several others, I couldn't disagree more.

Magazines are a mixture of editorial and advertising. I've seen several letters over the years from readers who com-

plained that *PROFILES* does not carry enough advertising to fulfill their buying needs. Readers look to both editorial and advertising to gather as much information as possible on hardware and software products that will suit their computing needs. Each month, *PROFILES* introduces, reviews, and gets readers up and running on several Kaypro-compatible hardware and software products.

Our reviews are succinct and to the point. We are not swayed by the manufacturer's or distributor's status as a potential advertiser. We try to choose products that are of general interest. Of course, we also carry ads from some of these companies—ads that may not be able, because of space limitations, to give you all the information you need before you buy. In an industry that seems to change daily, you, the buyer, have to start somewhere. It is with this in mind that we introduce a new reader service.

Since we receive so many inquiries from our readers about these companies and their products, we have originated *The Buyer's Hotline*. With this service, we hope to speedily connect the manufacturers directly to our readers, and in so doing enable our audience to make informed buying decisions. For detailed "how to" information, please turn to page 72. By the way, we hope to have this service online in a few months, giving you access day or night by modem.

As always, I welcome your comments and suggestions. *PROFILES* is here to provide solutions for you, the Kaypro user. We try to be a little less intimidating to our readers than those 400-page computer monthlies. I'd like to think that makes us "reader-sensitive" rather than advertising-driven. What do you think, Mr. Bunnell?

*Gwyn Price*

P.S. In this issue we include our annual year-end subject index. Browse through to find some important topics you may have missed in 1987 and keep it as a reference for future questions.

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# HARDWARE ADVICE

I have a Kaypro 2X with two Advent Products add-ons: a one-megabyte RAM disk and a 40-megabyte hard disk. I would not have added either without adding another "peripheral" first: an uninterruptible power supply (UPS).

Your discussion of Lightning vs. RAM disks ("Reviews," July 1987) paid a lot of attention to potential fluctuations in power—as it should have. My employer, for example, protects its mainframes only by filtering the power; when our monthly half-second blackout strikes, multi-megabyte typesetting work files just go poof!

For under \$300, you can plug your micro into a UPS that will filter the power and provide battery backup for 20 minutes or so in case the lights go out. All I have to do is copy files to the hard disk before shutting down. I wouldn't risk equipment or data without a UPS—and you should see dBASE and WordStar fly on that RAM disk!

Darrell A. Martin  
Wheaton, Illinois

# TASK SWITCHING, CP/M STYLE

It was with a bit of ironic interest that I read George R. Beinhorn's well-written article on task switching software in the November 1987 issue. Beinhorn introduced readers to MS-DOS software that could do this. However, we CP/Mers have known of task switching software for some time. One of CP/M's best programs has been providing this capability for a while.

It's the amazing successor to Background—now called Backgrounder II (available directly from Plu\*Perfect Systems, Idyllwild, CA, or from Advent Products, Inc., Anaheim, CA, for only \$75). There's much more to Backgrounder than its ability to enable task switching in any CP/M program, but surely this is its most heralded characteristic.

Unlike the programs Beinhorn listed for MS-DOS, Backgrounder suspends the program from which the operator is switching. So you can quickly (in sec-

onds) change to another program, and later return just as quickly to precisely where you were in the first program. It's just like suspended animation.

Backgrounder also has a cut-and-paste feature. Mark what you want copied from any program and quickly transfer it to where you want it in any other program, without ever having to close either one.

You can even FLIP back and forth between the two program files. You can view something in one file that you need to know while working in another. Switching back and forth is as quick as card-flipping.

Combining task switching with Backgrounder's NOTEPAD feature actually allows three files to be open (and accessible) at once. I do this frequently when I write academic articles that require endnotes and illustration listings. One WordStar file, for example, might contain the body text. In another WordStar file I can enter endnotes as I encounter them—never closing the first file. Illustrations are added under NOTEPAD while the first two files remain open. When I'm finished, I join the endnotes file to the tail of the text file and conclude the file by appending the illustrations file from NOTEPAD.

This sort of writing used to be a chore. Now it is a breeze and a pleasure thanks to Backgrounder's task switching—in CP/M.

Hal Vogel  
Willingboro, New Jersey

*Our loyal CP/M audience will be glad to hear that there is a program in CP/M that will enable them to perform all of the functions listed above. For a more in-depth explanation of the features of Backgrounder II, as well as instructions for getting up and running, please see "A First Session with Backgrounder II" in the August 1987 issue of PROFILES.*

# LET CP/M LIVE!

I have to add my voice to the others who mourn the passing of "Flea Market." In

CONTINUED ON PAGE 6



# "Dear Genifer.."

**Q:** "dBASE has me stuck at the dot prompt and I'm coming unglued! Can you save me?"

Help! I've been using dBASE for months at the dot prompt, but now I've got to write a stand-alone, end-user application. When I try to program, I get "Mismatched DO WHILE and ENDDO" and "Improper data type in subsubtotal expression." I just can't take it any more! Help me Genifer or I swear, I'll jump off the manual!"

- On The Edge

**A:** Dear On The Edge:

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a way, I hope *PROFILES* evolves into a hardcopy equivalent of online services, full of special-interest and user groups. At least one column and one article a month in a periodical beats absolute abandonment. It looks as though we CP/Mers have made our way to *PROFILES*' doorstep. I hope it continues to care for us. Keep publishing.

Jeffrey Beard  
Bowling Green, Kentucky

Anthony Marks, John W. Price and William C. Sharp said it all in the November issue, and I sincerely hope *PROFILES* does not slowly but surely forget those of us who prefer to stay with CP/M.

I hope Ted Silveira, in his article on WordStar 4.0 for CP/M, or Joseph Katz ("Adding Auto-log to WordStar," May 1985) can give us detailed instructions for patching the new version to auto-log on B drive, as even with SUBMIT it takes what seems like forever to get up and going.

Although I don't read the DOS articles, I do read and study the CP/M ones. Every so often I'll kind of skip over one, but then when the unexpected happens (like a disk crashing), how wonderful it is to dig in the back issues of *PROFILES* for the remedy. Please keep the CP/M features coming.

John F. Ganong  
Fresno, California

I am a Kaypro CP/M owner who finds that the machine adequately meets all my computing needs, principally word processing. Unless these needs change drastically, I will continue to use it until I can no longer keep it in working order. I subscribe to *PROFILES* to help me understand and use my machine and its software more efficiently and creatively. Recently I obtained the new WordStar Release 4 and have been adapting it to my machine.

When I received the November *PROFILES* (which came in late September!), I looked forward to reading several articles that would be of benefit to me. I was

thoroughly disappointed to find that in a 72-page magazine, only one five-page article directly applied to readers with CP/M computers. I was further disappointed by how little actual written content the magazine contained. It was padded with an extraordinary amount of white space and meaningless artwork.

The following improvements would make *PROFILES* more useful to me. Bring back Ted Silveira's "Flea Market" column (under any name). Publish a major article on how to patch WordStar Release 4 to optimize its use on Kaypros, and how to directly patch the printer drivers. Review some other CP/M software the same way you review programs for MS-DOS.

Robert Rubenstein  
Portland, Oregon

I wish to add my two bits to the discussion of the direction that *PROFILES* seems to be headed in. I agree with Anthony Marks that I am not at the point of cancelling my subscription, since there is no other magazine that addresses the CP/M world at all. But in the last two issues of *PROFILES* (October and November 1987), there really hasn't been anything of interest for me. No articles on ZCPR3 (or any other versions of operating systems). Very little about *Phu\*Perfect Systems'* Backgrounder II. Less on WordStar Release 4.0 for CP/M than the Boston Kaypro User's Group newsletter has printed. Quite frankly, suggesting to the readers that it is up to us to come up with ideas for articles for you and your writers suggests to me that while you may still be willing to publish articles, you are not actively involved in the CP/M world any more. I sincerely hope that I am wrong since in the past *PROFILES* has often been the source of tips and problem-solving suggestions. I hope that it will continue to be a source for those of us who continue to use our old 8-bit machines and that it doesn't slide into being a PC WORLD clone.

Charles R. Irwin  
Cambridge, Massachusetts

Let's address all of these concerns that our CP/M audience still seems to have.

1) *PROFILES* has no intention of abandoning CP/M readers. Although the number of readers with MS-DOS systems is now substantially greater than the number with CP/M systems, we will continue to provide at least one feature article (and hopefully more) each month targeted specifically to CP/Mers. We realize that a great percentage of CP/M users have absolutely no intention of changing to MS-DOS-based systems, and we will continue to support these readers. (Incidentally, yet another CP/M magazine recently closed its doors due to the increasing percentage of readers changing over to MS-DOS.)

2) Don't forget that there's more to *PROFILES* than feature articles. Ted Silveira's CP/M column (still not officially named, but running in this issue as "CP/M Only") will feature programs and ideas for the CP/M user. Brock Meeks' "Life at 300 Baud" addresses applications that are relevant to both CP/M and MS-DOS users. "Q&A" and "On the Practical Side" often provide technical tips for CP/M users. And keep your eyes tuned to "New Products" and "Product Updates" for anything that may be applicable to CP/M users. In one of our upcoming issues we will feature a review of some new CP/M utilities.

3) The invitation for CP/M readers to submit article ideas was to gain some insight as to which programs and applications our readers would like to see included in CP/M articles. We are conducting an active search for writers who still use CP/M machines and are still interested in what this operating system has to offer. We'll keep you posted on our progress.

4) Stay tuned for a two-part review on WordStar Release 4.0, as well as articles about creating macros for both the CP/M and MS-DOS versions of this popular word processor.

5) As for receiving the November issue in September, the reason for this is that we have to conform to notional distributors' newsstand schedules. *PROFILES* has been on some newsstands (the number of



outlets will be increasing) since the February 1987 issue. Because of this, our printing schedule (and all deadlines) have become earlier and earlier. Over the next few months, however, you should be receiving your monthly issue closer to the cover date.

#### DIFFERENT STROKES

For some time now I have been meaning to write about the exceptional art direction Rochelle Bradford and those before her have done for *PROFILES*. I see by the November issue this is too late.

Correct me if I'm wrong, but there seems to have been a major reorganization of staff, and it shows. There also appear to be fewer original illustrations and a beginner desktop-publishing flavor to this issue.

I suppose economies are inevitable. I just wish it wasn't so noticeable.

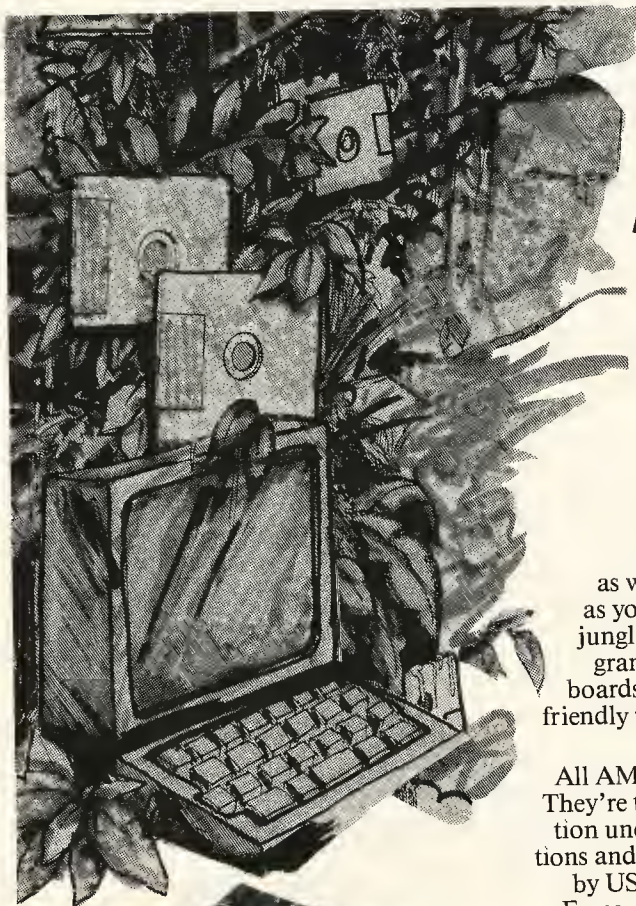
Tom Bazile  
Garberville, California

I just received the November issue of *PROFILES* today. I could instantly see a difference just in the cover and could tell that the design staff had been changed.

I am one of the magazine's past illustrators, my work being included as far back as the second issue of *PROFILES*. I've seen the magazine change several times, this time for the best. As a freelance illustrator for eight years, as an instructor at Art Center College of Design in Pasadena, California, and as a satisfied user of a Kaypro 10 and reader of *PROFILES* for five years, may I congratulate you on obtaining an extremely competent and talented art director, Susan Penn. She has brought a contemporary, sophisticated look to [the magazine]. The layout is very tasteful, and the slick cover more durable and attractive than before. Great work, Ms. Penn.

Please retain Ms. Penn as long as she'll stay. She brings a much-needed facelift to the magazine. And may I add that it would be an honor to have my artwork once again used in your magazine for

CONTINUED ON PAGE 8



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## LETTERS

CONTINUED FROM PAGE 7

visual enhancement of the well-written articles you've always had.

David Darrow  
Sepulveda, California

*It just goes to show you, we all have different tastes in design. We, too, feel that the new design brings a more up-to-date look and feel to the mogazine...and we hope you like it.*

## WHERE IS KAFTORWARE?

We were very interested to see a listing in your "Product Updates" (September 1987) for a PC-File 80 update. We have used the MS-DOS version for some time as a quick and simple system for uncomplicated jobs, but could not find a CP/M version beyond Button's original and primitive Osborne freeware version that we were told he never updated for CP/M. We'd love to have a copy so we could use it on both machines but for one problem. We can find no listing (neither an address nor a telephone number) in Chicago or Illinois for KaftorWare Corp. We would appreciate your help.

Thank you, by the way, for recombining the magazine and continuing to try to offer some CP/M information. Those of us using both systems really appreciate it.

Cynthia Charlton  
Iowa City, Iowa

Since we have had so many requests for the address and phone number for this company, we decided to publish it here. By the way, KaftorWare president Ben Cohen says that the updated CP/M version of this program will be available soon. For more information, contact KaftorWare Corporation, Box 1674, Chicago, IL 60690; (312) 965-8144. ■

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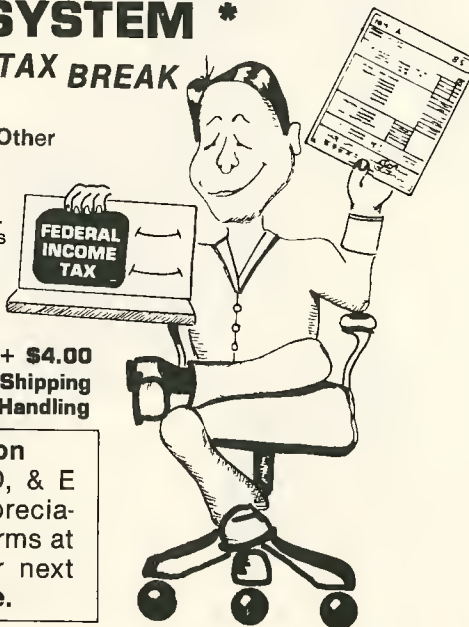
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**T**his column is a cautionary tale, the story of my first-ever desktop publishing job, and it's intended for those of you who are about to tackle your own first desktop publishing projects. It won't keep you from making mistakes, but it may help keep you from being buried alive.

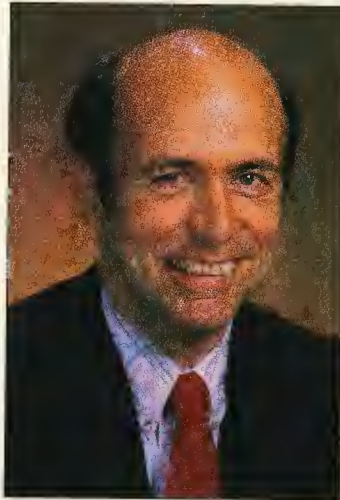
### THE JOB

The job seemed to be a relatively simple one. A software company had bought an existing program and was rewriting it extensively. The original program had a user manual that needed to be brought up to date to suit the new features. The company asked me if I wanted to write the manual. I said yes. Since they knew I was interested in desktop publishing, they then asked me if I wanted to handle the page layout and typesetting as well as the writing. I jumped at the chance. They set a deadline for the finished results (six weeks, in order have it out in time for Christmas), I made a bid on the job, they accepted the bid, and we were off. It all seemed very straightforward.

### THE BACKGROUND

Although I'd never taken on a real desktop publishing job before ("real" means having a deadline and facing serious consequences if you don't meet it), I didn't feel I was a complete novice. In fact, I thought I was pretty well prepared (faint sound of alarm bells). I'd been writing professionally for about five years. I'd previously written half a dozen user manuals, some of them quite long. I'd spent time working as a typographer's proofreader, so I knew something about type and about the typesetting side of the production process. And I'd been working intensively with several major desktop publishing programs, testing them thoroughly and producing various samples (never a complete project, though).

In addition, the job itself seemed easy. I knew a good computer artist to do the illustrations and a good indexer to do the index. The design of the manual was very simple—a single column per page with no side-by-side layouts, no text running



GAIL GOODENOW

### MY FIRST JOB

around the art, no fancy rules or other special elements. And I estimated that the actual rewrite of the manual text would take less than 60 hours, so the schedule left me plenty of time to do the page layout and to master those parts of the production process I was unfamiliar with (slightly louder sound of alarm bells).

### WHAT ACTUALLY HAPPENED

The project got off to a slow start. As often happens in software development, the program went through several unscheduled changes—problems cropped up, people thought of new and better ways to do things, new features were added to outdo the competition. So instead of starting with a nearly-finished version of the program and having six weeks to write about it, I received a series of "development" versions of the program, the early ones mainly mock-ups, the later ones functional.

As the program continued to change—new menus, new features, new procedures for old features, new terminology—I found myself having to redo whole sections of the manual, often more than once. In addition, I took much more time to rewrite the original manual than I'd originally thought, in fact, about twice

what I'd estimated.

The combination of delays, changes, and rewrites completely devoured all the slack in my schedule, so that 10 days from the deadline, I still hadn't finished the text. Even worse, I'd been so overwhelmed by the writing that I hadn't started on the art (all the illustrations from the previous manual had to be redone because of changes in the look of the program). I rushed to put together a list of illustrations needed for the artist, only to discover that she was leaving for a conference in five days. By now, I was working 14-hour days and spending a fortune in Federal Express fees as I tried to get the artist what she needed and keep up with my own work at the same time. I was in a constant state of anxiety and had ceased speaking to anyone except the artist, the people at the software company, and Federal Express.

A true professional, the artist delivered on time, just as I was beginning the page layout, and then took off for her five-day conference. Unfortunately, I hadn't given her all the details of the page layout, so many illustrations were too big and had to be resized—by me, since she was now out of town. Fortunately, I had the right graphics program to do the job, but it



meant more time lost. I also hadn't specified exactly how I wanted certain menus to look, so I had to modify a number of illustrations (entirely my fault, not the artist's). Still more time lost.

Worst of all, the page layout, which I had expected to be a breeze, turned out to be full of problems. The program (not Ventura Publisher) crashed repeatedly. And the page design itself, which I had thought to be so foolproof, turned out to have unexpected problems.

Specifically, I was having serious problems with bad page breaks caused by the illustrations. The manual contained many illustrations, mostly of the program's menus and screens. To keep the manual simple, we weren't labeling the illustrations (which would require captions, figure numbers, etc.), just dropping them in place. Because the illustrations were large (so that two wouldn't fit on a single page usually) and fell fairly close together in the manual, I often ended up with really atrocious page breaks—less than half a page of text with the accompanying illustration overleaf, for example. I couldn't make the illustrations any smaller (at least not much) because they all contained text that had to be readable. And because they didn't have captions and figure numbers, I couldn't reposition them in the text and say "See Figure 2-10." Simple layout—ha!

#### WHAT FINALLY HAPPENED

I got lucky. The software company, after a consultation with its marketing people and a look at some new competition, decided to make some major changes and to reposition the program. They gave up the idea of making the Christmas rush, pushed the release date back at least six weeks and increased the program's budget. As a result, I got enough extra time to finish the manual (despite all my mistakes) and was able to renegotiate our agreement so that I got paid for most of the extra work I'd done. Whew.

#### WHAT I SHOULD HAVE DONE

Looking back at this story, I'm reminded of the kids' puzzles that used to appear

in the Sunday funnies: How many things can you find wrong in this picture? Every time I think about it, I learn something new.

The major points:

*Estimate your time generously.* In my eagerness to get the contract, I obviously underestimated the hours needed for the rewrite job and for the page layout, both of which I should have doubled, as it turns out. Though that would have made for a hefty bid, it's far better to shock a client with a high estimate at the beginning than to disappoint them by missing the deadline at the end.

*Notify people immediately if you get behind schedule.* Every time I lost a day because I didn't get a new version of the program on time or had to rewrite a section of the manual because of unexpected changes in the program, I should have notified the software company. It wouldn't have stopped the changes and delays, but it would have kept a possible schedule overrun from being a complete surprise to everyone, and it would have put me in a stronger bargaining position once it became clear I was going to exceed my estimated time.

*Set up production details early.* Perhaps most important, I should have arranged all the production details—art specifications and deadlines, page size and format, typesetting, and so forth—at the beginning of the project. Or, more intelligently, I should have hired someone to act as a production manager.

If you don't already have experience in graphic arts and book production, it's very difficult to take on a major project that requires you both to write and to take care of production, because many production matters need to be decided and scheduled while the writing is still going on, not after it's done. If you have to handle production yourself, it eats into your time horribly and requires you to split your attention when you can least afford to.

*Specify all the details of the art you want, and do it early.* I should have given my artist much more precise specifications for the illustrations I needed—what

the maximum size could be, how the menus should look, and so forth. And, of course, I should have done them much earlier in the project—to give the artist more time to work and time to make corrections.

And I certainly should have checked her schedule for the deadline week and the two weeks after (in case of delays) to avoid being taken by surprise.

*Never depend on a program that's new to you.* I clearly should have used the particular page layout program for at least one complete sample job, including typesetting or laser printing, before I ever bid a real job based solely on it. Even overlooking my own inexperience (which I shouldn't have), it was extremely foolish of me to depend on a program whose quirks I didn't know.

*Never assume that the actual page makeup will go smoothly.* I thought that because the design of the manual was simple, the actual process of creating the pages would be equally simple. Wrong. Since I had lots of large illustrations to include in the text, I was going to get lots of bad page breaks, no matter how simple the page design.

If you're working with something other than straight text (or text with only a few illustrations), allow lots of time for adjusting page breaks. Better yet, try to start with a page design that will give you maximum freedom when you lay out pages, one that doesn't require facing pages to have even bottom margins, for example, or one that allows illustrations to "float" instead of being tied to a particular spot in the text.

And if you don't have any design training yourself, and your pages are going to be even mildly complex, hire a professional designer.

Those aren't the only lessons to be learned from this gruesome story, but I'll leave the rest as an exercise in imagination for interested readers. See you next month. ■



**B**enjamin Disraeli once said, "There are three kinds of lies: lies, damned lies, and statistics." It's a snappy rejoinder if you don't have a comeback when bombarded with facts and figures. I often use it as a maxim when reading many of the marketing reports that pop up in my mailbox.

So, when a report from IDC, a market research firm, stated that from 1986 to 1988 there would be an 80 percent increase in the number of 9,600-bps modems sold, Disraeli automatically came to mind.

The report also noted that in 1986, 9,600-bps modems commanded the largest share of the modem market (30.9 percent) in terms of total revenue. The main reason: most of these modems sell for a hefty six grand. However, the 80 percent forecasted increase didn't apply to these high-priced modems, but to a new breed of 9,600-bps modem costing much less.

Known as "dial-ups," these "low end" 9,600-bps modems will likely end up tethered to desktop PCs—not to corporate mainframes like their high-priced cousins.

After reading the IDC report, I shifted through skeptical and into curious, deciding to investigate a bit more. After all, since most people are still running at 300 bps, why would these "super" modems suddenly be in the spotlight?

#### TRADITION

A few quick calls to IDC revealed that most 9,600-bps modems traditionally have been used on four-wire, leased-line networks. These are typically private networks set up by financial services or multinational corporations. Each day they must move incredible amounts of data among several mainframes as quickly as possible, and they must do it with a minimum amount of error. Because of their complexity and "bullet-proof" design, these "network" modems wear price tags rivaling that of a diamond-encrusted Rolex.

But now several manufacturers are challenging the traditional image of these



RICHARD STARKMAN

BY BROCK N. MEEKS

## 9600-BPS MODEMS: A DOUBLE STANDARD

high-priced speedsters. Hayes, US Robotics (USR), Racal-Vadic, and others are selling 9,600-bps modems aimed at individual users for use over voice-grade telephone lines. Average price tag: \$1,000.

Why the big price spread? Good question. As it turns out, not all 9,600-bps modems are created equal; the newer dial-up 9,600-bps modems don't have to meet the same exacting standards as their expensive corporate counterparts.

#### STANDARD DILEMMA

The differences between the two types of 9,600-bps modems stem from two separate standards, V.29 and V.32, as recommended by the Consultative Committee for International Telegraph and Telephone (CCITT), an international standards-setting committee.

The V.32 standard is generally considered the "true" standard because it specifies that such modems must have a simultaneous (sending and receiving) transfer rate of 9,600 bps. (This is also known as "synchronous, full-duplex, 9,600-bps throughput.")

Without diving into heavy technical details, suffice to say that the V.32 stan-

dard is immensely complex to implement, primarily owing to a technology called "echo cancellation."

Because V.32 modems move data at high speeds in both directions simultaneously, they use 90 percent of the available telephone bandwidth. When this happens, signals being sent and received cannot "pass" without bumping into each other. This "bumping" causes an echo effect. Echo cancellation technology enables these modems to decipher the correct signals or "filter out" the echoed (overlapped) data.

Echo cancellation is a sophisticated way of dealing with limited telephone bandwidth. Unfortunately, it is also the most expensive.

Another way to overcome this cramped bandwidth is to use the CCITT V.29 standard. This is the same technology that all modern facsimile machines use. It assures reliable 9,600-bps operation, but only in one direction at a time. This is the standard used by all of the dial-up 9,600-bps modems on the market today.

The V.29 standard moves *all* the signals in one direction for a certain amount of time, then stops and lets the "traffic"



move in the other direction. Because there are no overlapping signals, echo cancellation is not needed, which makes it possible to lower the price of the modem.

It should be added that all 9,600-bps modems, regardless of the standard they use, are compatible with lower speed modems.

#### ALL FOR ONE; NONE FOR ALL

Although all dial-up 9,600-bps modems are based on the same standard, they are anything but "standardized." This is because each manufacturer implements the standard in a different way, mainly by using hardware-based proprietary error correction protocols. This creates havoc in the marketplace; presently all V.29 9,600-bps modems are incompatible.

"Compatibility among 9,600-bps dial-up modems would be nice," says Ryan Gale, microcomputer resources manager for Monitor Labs, "but it's not an absolute criterion for putting these modems to work on a desktop."

Gale cites his own experience as proof: "We needed to transfer data to an office in Taiwan several times a day. We didn't have the option of waiting until nightfall, when 2,400-bps transfers might have been adequate; we needed to get information over there now."

"When faced with that kind of situation, I didn't care if my USR (9,600-bps modem) could talk with a Racal-Vadic dial-up. It was unimportant. I simply needed my USR to talk with Taiwan's USR. Case closed."

Gale's application is typical. The faster the data gets from here to there, the less money it's going to cost. "You don't need a spreadsheet to calculate that bottom line," Gale said.

Such a decision creates a de facto standard—"a 'standard by edict,'" Gale said.

#### BUT CAN IT TYPE?

There are two areas where high-speed dial-up modem performance is crucial: bulk file transfers, as described above, and interactive online sessions.

Online, your every keystroke is echoed back to your screen by the remote computer, providing you with immediate feedback. Human-factor engineering shows that people can tolerate only a small amount of delay between the time they enter a keystroke and the time their entry is echoed back to their screen. The upper level of this "tolerance" is 200 milliseconds, or one-fifth of a second. Any delay over 200 milliseconds is detrimental to performance (not to mention patience). This "round trip" delay time is a major criterion for judging a high-speed modem.

Such turnarounds, even at 9,600 bps, introduce long delays between the time you actually type a character and the time the remote system echos it to your screen. (This is called "ping-ponging.")

In the interactive mode, some dial-up 9,600-bps modems dedicate the remote-to-user link to a speed of 9,600 bps. But because these modems don't transmit at 9,600 bps in both directions, they must regulate the user-to-remote link to only 300 bps. And although these modems don't have to deal with "ping-pong" delays, there is significant extra delay imposed by any noise on the 300-bps channel, in addition to the delay inherent in 300-bps throughput.

Just what effect does all this delay have on the "tolerance" level of 200 milliseconds? Plenty, according to a benchmark study by Racal-Vadic.

The Racal-Vadic benchmark shows that on typical long-distance phone lines, the average interactive delay time of the three 9,600-bps modems tested, including their own, ranged from 204 milliseconds to 270 milliseconds. Clearly, these dial-up modems are not meant for intensive keyboard pounding.

#### LIFE IN THE FAST LANE

At \$1,000 a pop for these modems, most of you are probably shaking your heads, thinking, "I don't need it; I don't want it." Well, maybe you do and maybe you don't.

If you spend a lot of time downloading software from BBSs, it might be to your advantage to have one of these modems.

USR is successfully wooing sysops by offering them the HST 9,600-bps modem for only \$495. If that strategy works, BBSs all over the country will be upgrading to 9,600 bps, giving you a great excuse (or at least a rationalization) for upgrading to 9,600 bps yourself. As one San Diego user told me, when I questioned his sanity for purchasing an HST: "You can't appreciate these modems until you've downloaded a 100K file in 90 seconds." (The Disraeli quote welled up in my throat, but I reconsidered.)

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## USR is wooing sysops by offering 9600-bps modems for \$495.

---

And for sysops? Imagine thousands of Fidonet (or similar systems) running at 9,600 bps. Suddenly a network emerges that approaches the coverage, speed, and efficiency of the world's fastest private networks; "global interconnectivity"—economically a fantasy at this point—becomes more than a mere pipe dream.

And corporations weighing price against payback might consider the words of Ed Prentice, product manager for Racal-Vadic: "When an eventual standard arises for dial-up 9,600-bps modems, the price is likely to be attractive enough to make you toss your present 9,600-bps modems in favor of industry-wide compatibility."

"Your 'investment' in older 9,600-bps modems will have more than paid for itself, while all along providing you the advantages of a high-speed file transfer network. And that's just good business sense." ■



BY MARSHALL L. MOSELEY

## WHOSE DEFAULT IS IT?

*I work with people who understand MS-DOS far better than I do. I notice that they frequently leave out the latter half of a command. How can they do this? Doesn't the computer require complete information to execute a command?*

Yes and no. Sometimes the computer already knows what to do. For example, if you wished to copy TEST.TXT from the A drive to the C drive, you could type **COPY A:TEST.TXT C:TEST.TXT**. The first file specification is the source file and the second specification is the target file. This is the complete form of the copy command.

Notice that the file name appears twice: once for the source file and again for the target. You don't have to do it this way, though. If you do not designate a target file name, COPY will use the source file name. The command **COPY A:TEST.TXT C:** does exactly the same thing as the long command. When COPY executes, the first name you typed becomes the default file name. When the second file name is missing, COPY uses the default.

The concept of a default value applies to directory paths as well. Assume that you are on the C drive in the COMM subdirectory off of MAIN. Assume also that you want to copy TEST.TXT from the WRITE subdirectory off of MAIN to the COMM subdirectory. The complete command is:

**COPY C:\MAIN\WRITE\TEST.TXT  
C:\MAIN\COMM\TEST.TXT**

That's a lot of typing to copy one file. Remember that you are logged onto the COMM subdirectory; the directory path to your current location is C:\MAIN\COMM. If you don't type a directory path, COPY uses your current location as the default path, and the default filename as the new filename. The command can be shortened to **COPY C:\MAIN\WRITE\TEST.TXT**. Using defaults, COPY supplies the latter half of the command.

COPY is not the only command that uses defaults, it's just the most common. FC, CHKDSK, FORMAT, and many others do also (you can get in a lot of trouble using the FORMAT command with default values—you might accidentally format your hard disk).

## A DRIVE DILEMMA

*I work on a Kaypro PC at home and on an AT-compatible at work. I find that sometimes I cannot read the disks I bring home (though sometimes I can). Exactly what types of drives and disks do these computers use?*

To understand the answer to this question, you need some background on what drives have been and are being used in Kaypro computers.

Kaypro has used five types of floppy disk drives: single-sided 5.25-inch; double-sided 5.25-inch; high-density 5.25-inch; ultra-high density 5.25-inch; and double-sided 3.5-inch.

**Single sided drives.** These only use one side of a 5.25-inch disk. The disks hold 180 kilobytes of data (190 when used with CP/M). The only computer that Kaypro has sold with single-sided drives is the original Kaypro 2'83.

**Double-sided drives.** Standard equipment on the Kaypro 4, 4'84, 2X, New 2, 10, 16, 16/2, 16E, 16/2E, PC, PC-10, PC-30, Expansion Unit Plus, and the 2000 Base Unit. Double-sided drives use both sides of the disk, and double-sided disks hold 360 kilobytes of data under MS-DOS. These are the standard drives used in most MS-DOS microcomputers, and software is usually sold on these disks.

**High-density drives.** These drives use both sides of the disk, and information is stored on these disks at a higher density than on regular double-sided disks. They hold 1.2 megabytes of data, four times the amount held by regular double-sided 360K disks. High-density drives are standard equipment on most AT compatibles and 80386-based computers, such as the Kaypro 286i and the Kaypro 386.

Because most software is stored on

double-sided disks, high density drives can format, read, and write to them as well as to high-density disks.

**Ultra-high density drives.** These drives were used with the short-lived Robie computer. They read and wrote to 5.25-inch disks that each held up to 2.6 megabytes of data. Though these disks could hold a great deal of information, they never achieved wide acceptance and are used today only for mass storage and backup.

**Micro-floppies.** 3.5-inch drives are the standard drives used in laptop computers. The actual disks hold 720K and are housed in sturdy plastic cases, rather than in the thin laminated cloth sheaths used with older disks.

As for your disk dilemma, AT-compatibles use high-density drives, which can read and write to both 1.2 MB disks and standard 360K disks. Unless you use CHKDSK, DIR, or a disk directory program to look at the disk, there is no way of telling what type of disk is in the AT's drive. So you might work with a 360K floppy disk during the day, then take it home and work with it on your Kaypro PC with no problems. The next day you might use a 1.2 MB floppy; if you take that home, your computer won't read it. When working with AT-compatibles, always make sure that you know what type of floppy disk you are using.

## A CALCULATING QUESTION

*What is a numeric co-processor? Do I need one to get the most out of my computer?*

To understand what a numeric coprocessor is, you should have some idea of what a microprocessor is. A microprocessor is an integrated circuit that does arithmetic with binary numbers. That is all it does, but it does it very fast. The microprocessor (CPU) is the heart of your computer; it does all the actual work. When you ask your computer to process words, index a database, or recalculate a spreadsheet, the CPU is what performs the operation.

The CPU must manipulate many dif-



ferent types of information. Unfortunately, that means that mathematically it does many things well but nothing superbly. Its overall flexibility is gained by making it relatively inefficient at certain operations, particularly floating-point arithmetic (math using numbers with fractional parts—for example, 99.9). If the microprocessor were dedicated only to floating-point math, it would work much faster.

A numeric coprocessor is just that: a chip designed to do only floating-point calculations. When the CPU has a numeric coprocessor available, and the software knows how to use the coprocessor, it passes all floating-point operations to its newfound sibling, freeing its time to do even more work. A system that has a microprocessor-coprocessor combination, and software to take advantage of it, is much faster than one with only a microprocessor.

Most software does not automatically use a coprocessor. Be sure the program you are buying supports a coprocessor. An exception is Lotus 1-2-3 Release 2. If there is a coprocessor available, Lotus will use it, and your spreadsheet recalculation times will be greatly reduced.

The numeric coprocessor for the Kaypro PC, 16, and 2000 series computers is called an 8087; for the Kaypro 286i you need an 80287. The Kaypro 386 requires a special coprocessor module, available from your Kaypro dealer.

Both chips are available in any major city and by mail order through many computer magazines, including *PROFILES* (See Central Computer Products' advertisements.)

Any coprocessor you buy must be rated at the same speed as your CPU. If you have an 8-megahertz Kaypro PC, order an 8087-2; for an 8 Mhz 286i, order an 80287-8; a 10 Mhz 286i gets an 80287-10.

Be prepared to spend money. The 8087 coprocessors range in price from \$100 to \$200, depending on the speed, and 80287s start at \$150 and go as high as \$350.

## The Best-Selling Add-on **Kaypro** compatible **Hard Disk** is now the smallest!

The ACEC Mini-Winnie hard disk system has become THE most popular hard disk add-on for CP/M Kaypros since its introduction in 1985, chosen as the "Best new hardware product for 1986" by Ted Silveria in *Computer Currents*, Dec. 86. Our reputation is that of satisfaction and support:

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**ORDER INFO:** Call **305-482-7302**. Terms: UPS COD, Check/M.O. (U.S. funds), shipping extra. Please allow 4 weeks for delivery. FL. add 5% tax. May return within 30 days for refund. Warranty 90 days (Drive 6 mos.). State computer type & add-ons.

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	20/10 mb EXTERNAL drive	20/10 mb INTERNAL drive
Standard* 5¼":	<b>\$790/665</b>	(See Note)
Micro Series 3½":	<b>\$849/759</b>	<b>\$795/745</b>

\*Our Standard 5¼" systems feature popular drives by Seagate, Rodime, Tandon, CMI and others, chosen for reliability and value.

(INTERNAL note: 5¼" drives add excessive load to your power supply. For 3½", some early Kaypro models may require a power supply upgrade. Fan incl. if applicable.)

### Advent TurboRom!

Special edition adds direct support of the Mini-Winnie family to this popular add-on. Operates like Advent's original Hard Disk TurboRom. Not required for Mini-Winnie installation, but gives full TurboRom advantages PLUS:

- Boot directly from H.D.
- TPA space remains 63K.
- 15% more formatted space.

**\$149** (existing TurboRom owners \$129 exch.)



## TECHNOLOGY CATCHES UP WITH

BY MICHAEL CAHLIN

*Possunt quina posse videntur.*  
("They can because they think they can.")

**M**ark Heliger is the type of guy who predicted the future, then had to wait seven years for the future to live up to its end of the bargain.

In 1981, Heliger was working with a graphics consulting firm training people in the finer points of typesetting, layout, and design. He had always dreamed of starting his own company. He even had the name: CommType. It would combine computers, communications, and typesetting with graphics and design.

When he told his bosses about the idea, they shook their heads and said, "Don't you have a training session to go to?" So he went. Not to the training session, but to buy his first computer.

Now you have to remember we're talking 1981-82. There were less than 1 million microcomputers in the United States, CP/M ruled, and 64K was considered programming power to spare. So the idea of disk-to-disk and computer-to-computer file conversion was as unlikely as a laptop computer.

### COMMTYPE COMETH

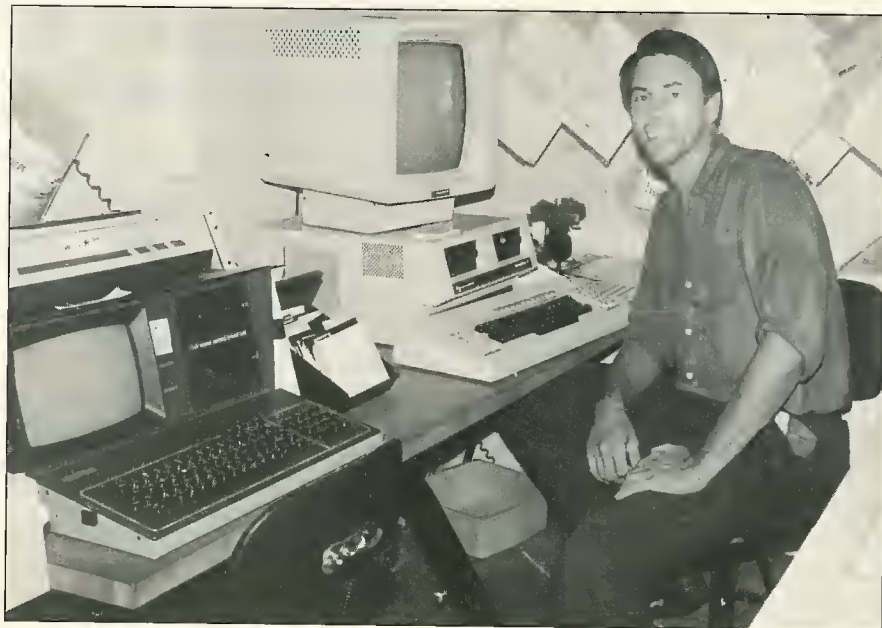
CommType officially opened its doors in February 1982, and Heliger bought his first computer, an Apple II with a CP/M card, one month later.

"I remember getting the Apple home and thinking, 'Wow! This is the future.' It took me one year to discover that sometimes the future needs a little fine tuning."

For the next few months, Heliger tinkered with the Apple II while building a loyal clientele. "We belonged to this strange club where the technology was more important than the product of that technology," recalls Heliger.

"In other words, how the job was done was more important than the job itself. So while we were figuring out how to make everything work, we'd dream about how we could make everything work better."

Yet in 1983, one year after CommType



MARK SWEZEY

opened its doors, the problem Heliger faced was still there: he had the dream, but he didn't have the technology.

Kaypro did.

---

*Heliger used the word  
that is music to every  
bean-counter's ears:  
"Cheaper."*

---

Heliger bought a Kaypro 4 in early 1983. At about the same time, he contacted a small company called Ashton-Tate, which had recently released a software program called dBASE II. Heliger wanted to typeset and design all of Ashton-Tate's newsletters, manuals, books, and other projects. Unfortunately, Ashton-Tate wasn't interested.

So Heliger looked for other clients. He lugged his "portable" Kaypro 4 to every business presentation and explained how

it would make every job faster, more accurate, and more efficient, and then he used the word that is music to every bean-counter's ears: "Cheaper."

### MASTER OF THE KAYPRO 4

At these presentations Heliger preached the gospel according to Kaypro, demonstrating what the computer did for his business.

With WordStar, he wrote letters, did billing, edited his clients' copy, and spell-checked it with The Word. Using a combination of Uniform and Media Master, he was able to read over 100 different disk types.

Using SmartKey, Heliger customized his keyboard and his Kaypro's bundled software by assigning strings of characters and typesetting format codes to a single key—saving time. To complete the process, a telecommunications program called CrossTalk transferred the data to his typesetting machine, where he created the final product.

Heliger's Kaypro became the pivotal link in his business. "Before the Kaypro, I had a business, but the Kaypro made the business work and made it profitable."



## BACK TO THE FUTURE

One year after Time Magazine shocked the world by naming the computer the "Man of The Year" in December 1982, Lotus 1-2-3 would stun the software industry by replacing Visi-Calcul as the spreadsheet software of choice for microcomputers, and Ashton-Tate would surprise Heliger by finally awarding CommType its account.

After almost eight months, Heliger had finally convinced Tom Clark, the director of Ashton-Tate's publishing group, that using his methods would save Ashton-Tate time and money. His first job for that company was designing and typesetting *Softwords/Hardwords*, a book about writing software documentation. He promised it would be online and on time.

It almost was.

## Compugraphic's state-of-the-art typesetting machine let Heliger do what he always wanted to.

That job turned out to be the biggest technological nightmare CommType had ever faced. Heliger's typesetting equipment broke down and he took the job elsewhere, but nobody else was familiar with the technology. He even flew to San Luis Obispo to kluge his Kaypro files to an 8-inch drive format.

"Talk about frustrating!" he said.

Heliger delivered the job six weeks late. In spite of the technical problems, Ashton-Tate was impressed with the book and with Heliger's tenacity. They gave him a second job. This one was on time.

Heliger proved to Ashton-Tate that his methods worked. And now the technology was available. Compugraphic had

just introduced a new state-of-the-art typesetting machine with pagination software, which would finally allow Heliger to do what he had wanted to do way back in 1981.

Armed with letters of intent from Ashton-Tate and several other clients, Heliger bought the typesetting machine of his dreams.

By the end of 1983, CommType was in the black. Heliger was designing and doing most of the typesetting for Ashton-Tate. He was also creating newsletters, books, restaurant menus, ads, fact sheets, and anything else that could be designed and printed for a variety of other clients.

By adding a modem, he made it unnecessary for clients to travel to his office to drop off work. They could just call it in and bang! their work was on his desk.

In 1985, CommType came into its own. With his able assistant, Hilary Johnson, the company had designed, typeset and produced more than 100 books, newsletters, and magazines, including the majority of Ashton-Tate's books and quarterly magazine.

Yet he noticed the needs of his clientele

were changing. In anticipation of the next wave of technology, Heliger expanded his business again.

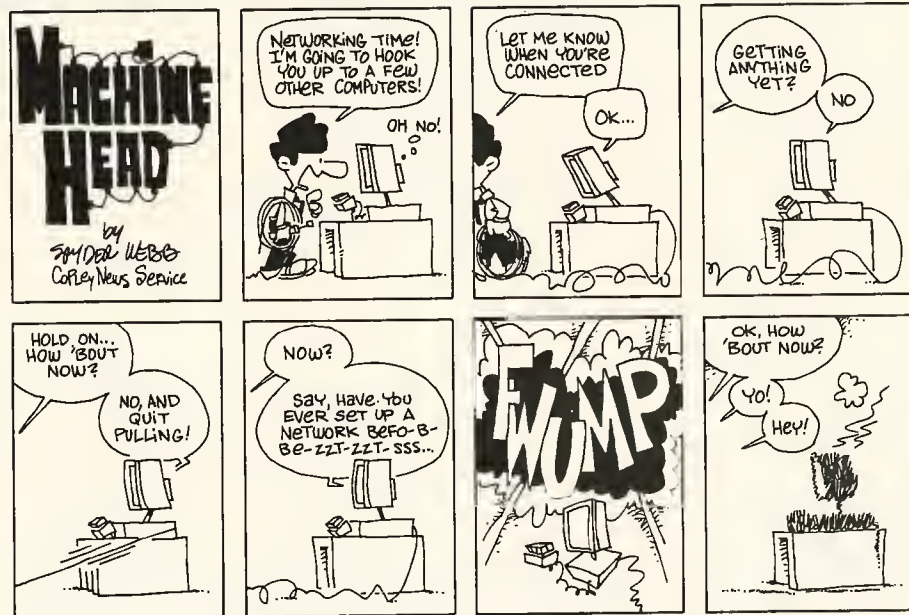
## ACCESS PUBLISHING

He started another company, Access Publishing, in the fall of that year. Unlike CommType, Access Publishing was for people who wanted to do it themselves. Heliger bought a Macintosh and an Apple LaserWriter printer, and for an hourly rental fee, he gave these clients the power to "self publish." Thus he became one of the patriarchs of desktop publishing.

Today, Heliger is a consultant on Ashton-Tate's new desktop publishing program, "ByLine," and is working on the training video. He is also a leading authority on interface typesetting, telecommunications, and digital graphic imaging.

And in spite of all the technological advances, he still uses his original Kaypro 4 to translate information from MS-DOS and those rare CP/M disks to his Compugraphic machines.

It took seven years, but the industry finally caught up with his dreams. ■







Accounting Software

# The electronic path





Financial Management Software

Portfolio Management Software

## PERSONAL

## FINANCIAL

## SOFTWARE

---

BY JACK NIMERSHEIN

PHOTOGRAPHY BY GLENN STEINER

---

Keeping track of money used to be such a simple proposition: You either had it, or you didn't. If you had money, you drove into town and deposited it in the local bank, where it was safe and secure and earned interest at a respectable if not impressive rate. If you didn't have money, you tried your best to earn it. Then you'd drive into town and deposit it in the local bank, where it was safe and secure and so forth.

How times have changed.

Nowadays—with rising interest rates, the falling dollar, taxation, inflation, recession, and a dozen other fiscal uncertainties lurking around each bend in the economic road—it almost seems necessary to hire a CPA to manage your money just to break even, much less get ahead.

Fortunately, the changing times have also ushered in the tools to deal with financial complexities. Your personal computer and the right personal financial software can be impressive allies in the quest for financial success.

In this article we'll look at three broad categories of financial software, and we'll also take a closer look at four specific packages.

CONTINUED ON PAGE 21

# to financial success



# MORE GREAT Values

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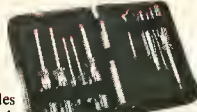
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Battery operated real-time clock and calendar. Keeps time for more than ten years. Push into any 28-pin ROM socket on motherboard. Or, if you don't have an empty socket, take a PROM out of a socket, install the No-Slot Clock — then replace the PROM onto the back of it. Works in PC DOS, MSDOS, Apple ProDOS, and Apples DOS 3.3 computers. 3 year warranty. When ordering, specify computer. \$49. Order today.



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— Fort Worth,  
Texas

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- Supports Math Coprocessor
- Dual Monitor Support

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- Mono, CGA & Hercules

### Twin Spreadsheet

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- Macro Support
- 256 x 8192 Workspace

### Word Processor

- 35,000 Word Dictionary
- Data Import from Other Modules

### Datamail

- Merge Database to WP

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## Relational Data Manager

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- Multiple Key Sorting
- Merge File Capability

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- 2D and 3D Graphics
- Explosions
- Slide Shows
- Print and Plot without Exiting Program

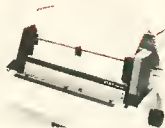
## Terminal Emulations

- IBM 3101, VT-52, 100

## PC Communications

- Hayes Compatible Command Set
- 9600 Baud Supported

## Tractors

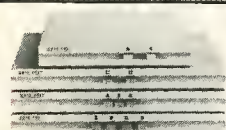


The bidirectional tractor shown here is for Kaypro printer and Juki 6100 users. Includes an exclusive anti-blacklash drive for precise positioning of continuous paper and clear printing. Trouble free performance. Year warranty. 30 day free trial. \$125. Order today.

## Slimline Data Switches Lifetime Guarantee

These rugged slimline switch boxes are built to last. Save wear and tear on cables. No more switching cables back and forth to get a job done.

Hook up two printers to your computer. Print on one or the other with the push of a button. Serial and parallel models. The AB Parallel two switch model is \$89. The ABC parallel three switch unit is \$129. Please call on other configurations including cross-switching units. Remember these Data Spec switch boxes include lifetime factory warranties. Built to perform a minimum of 20,000 switches. Satisfaction guaranteed. Order today.



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NEC Elf Uni-Directional	\$ 95
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NEC Pinwriter P5 Bi-Directional	\$167
Toshiba 351 and 341 Bi-Directional	\$179
Toshiba 321 Bi-Directional	\$ 95

Description	Price
<b>Accounting</b>	
Checks & Balances	\$64
DAC Easy GL, AR, AP	\$45
DAC Easy Payroll	\$45
Home Inventory Plus	\$37
<b>Business</b>	
Bottomline V	\$199
Decision Analyst	\$79
Landlord	\$495
MarketFax	\$595
Time Slips	\$89
Will Writer	\$47
<b>Communications</b>	
Carbon Copy	\$159
Mirror	\$55
Mite	\$49
<b>Database</b>	
dBase III Plus	\$459
Filebase	\$99
Reflex	\$119
Reflex Workshop	\$65
Reflex & Workshop	\$159
VP Info	\$79
<b>DeskTop Publishing</b>	
Click Art Publisher	\$149
NewsMaster	\$89
NewsRoom	\$59

Description	Price
<b>Educational</b>	
Evelyn Wood Reading	\$75
Family Roots	\$159
I Ching	\$29
Language Tutor	\$47
Memory Tutor	\$47
Mind Prober	\$45
Mind Over Minors	\$53
The Word (Bible)	\$179
Typing Tutor III	\$45
Quiz Writer	\$47
<b>Entertainment</b>	
Ancient Art of War	\$43
ChessMaster 2000	\$45
Flight Simulator	\$45
Jet	\$45
Karateka	\$35
Lotto Master	\$25
P. W. Teaches Chess	\$79
Wizard of Wall Street	\$43
<b>Graphics</b>	
Certificate Maker	\$55
Dr. Halo	\$89
Fancy Font	\$155
Form Tool	\$89
Generic Auto Dimen.	\$45
Generic CADD 2.0	\$87
Generic Dot Plot	\$25
Graphlrix	\$99

Description	Price
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Art Gallery I	\$39
Art Gallery II	\$29
PrintShop	\$55
Graphics Disk 1	\$33
Stella Bus. Graphics	\$99
<b>Integrated Software</b>	
Ability	\$79
Framework II	\$479
Q & A	\$279

**Kaypro  
Compatible  
MS-DOS  
Software**

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Basic Compiler	\$279
Turbo Pascal w/BCD	\$89
Turbo Tutor	\$45
Turbo Database	\$65
Turbo Gameworks	\$65

Description	Price
Turbo Graphix TBox	\$65
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Super Project Plus	\$359
<b>Utilities, General</b>	
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dFastest	\$49
FastPak Mail	\$74
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Memory Typewriter	\$39
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SideKick	\$69
Sideways	\$53
SmartKey 5.11	\$59
SmartNotes	\$69
SmartPath	\$29
Twist & Shout	\$31
Uniform	\$59
<b>Utilities, Disk</b>	
Cubit	\$45
Carousel	\$45
Disk Optimizer	\$45
Double Dos	\$45
Le Menu	\$75
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Norton Advanced	\$99

Description	Price
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<b>Spreadsheets</b>	
4 Word (123)	\$69
Spell It (123)	\$69
Sprdsht Analyst (123)	\$69
Note It (123)	\$69
SQZ! (123)	\$69
VP-Planner	\$84
<b>Training</b>	
ATI dBase III	\$57
ATI Framework	\$57
ATI Lotus 123	\$57
ATI MSDOS	\$57
ATI SuperCalc4	\$57
ATI Word Perfect	\$57
DAC Acctng Tutor	\$20
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Grammatik II	\$79
Punctuation & Style	\$95
Ready	\$89
Thoughtline Outline	\$59
Wordfinder	\$69
Word Perfect	\$279
WP Library	\$99
<b>Supplies</b>	
3M SSDS Kaypro/Box	\$12
3M SSDS Kaypro/Box	\$14
3M Head Cleaning Kit	\$21

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### THE TYPES OF PROGRAMS AVAILABLE

In terms of power, personal financial programs for the PC cover a wide spectrum—from simple checkbook balancers designed to do little more than record payment of your monthly bills to complex, integrated packages capable of taking on the tasks of personal financial planning and professional portfolio management.

Most personal financial software falls into one of three main categories: accounting, financial management, and portfolio management. But the boundaries can be fuzzy—options and capabilities common to one genre often surface in a package that ostensibly falls into a different category. For the purposes of this article, however, these three general groupings are useful.

**Accounting software.** Accounting programs do little more than document your current financial status. As an analogy, consider a bookkeeper's ledger book. Programs in this category electronically emulate this traditional tool of the accountant's trade.



*There aren't a lot of buzzers  
and bells in accounting programs—  
and there shouldn't be.*

On one side of the ledger (using one set of functions), you record assets—income, property, savings, inventory, and the like. On the other side of the ledger (using a different set of functions), you track liabilities—expenses, loans, taxes, etc. The software monitors these entries and then reports on how well they balance against each other. If assets outweigh liabilities, you're in good shape.

Most accounting programs also include a check-writing module. Using a powerful personal computer to balance a checkbook seems like overkill, but the advantage is that all records of your checking account transactions are immediately shared with the bookkeeping functions of an accounting program, and balance statements are automatically updated to reflect this activity.

Even with the check-writing modules, there aren't a lot of buzzers and bells built into these programs—and there shouldn't be. In many cases, simply clarifying your financial situation allows you to begin improving it. If your needs are this straightforward, the software you purchase should be similarly unadorned.

The least pretentious aspect of accounting programs is their cost—they're generally under \$100.

CONTINUED ON PAGE 22

## "MAKE YOUR IBM PC KAYPRO COMPATIBLE"

*Intersecting Concepts Announces  
3 Solutions To Solve Your  
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**"But will it work on my computer?" YES!**

Finally, there are three *easy* ways to exchange information, transfer files, and run CP/M software on MS-DOS machines.



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2. **MEDIA MASTER PLUS™** features our new *Media Master 4.0*, plus a new version of ZP/EM, our powerful CP/M-80 emulator program. The results of this two-program set are amazing! Now you can run 8-bit Z80 CP/M programs from your Osborne, Kaypro or Zenith computers on your IBM PC or compatible. For only \$59.95, you can save your CP/M data and programs, and continue to get your money's worth out of your CP/M investment!



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Financial management programs. A lot of financial management packages seem to be associated with current "celebrities" in the economic theater: Sylvia Porter's *Your Personal Financial Planner*, Andrew Tobias' *Managing Your Money*, J.K. Laser's *Your Money Manager*—and the list goes on. When it comes to computerized financial consultation, manufacturers have apparently decided that familiarity breeds confidence. These programs are a step up from the previous category, in both power and price. Financial management packages expand on the basic functions of any good accounting program. In addition to organizing check-writing chores and tracking assets and liabilities, financial management packages include a wide range of options to help you manage your assets and liabilities more efficiently.

Planning plays a big part in these efforts. Sylvia Porter's program, for example, includes an interactive Financial Planning by Objectives module, a step-by-step question-and-answer session that, according to the promotional literature, will enable you to determine the best financial moves based on your career, marital status, children, savings, life insurance, and similar factors. Other programs in this genre offer similar exercises.

Most financial management software also includes special functions dedicated to inventory tracking and tax planning (see related article on page 30), so you could also use a financial management program with these features to keep tabs on your small business or professional office. Since these packages generally support multiple budget categories, accounts, and checkbooks, they offer the convenience of using a single program to manage both your personal and professional finances.

The ability to generate a variety of graphics—visual representations of your assets, net worth, projected tax liability, profit/loss statements, etc.—is another powerful option found in many financial management packages.

The down side to all this power, however, is complexity. Advertising claims notwithstanding, the time and effort required to familiarize yourself with the myriad of options and commands available in the average financial management program can be considerable. Unless you're serious about money management, you might do well to limit yourself to a less complex and therefore more accessible accounting program.

Price is another factor to consider. Packages in this category range from \$100 to \$350—an investment that's not justified unless you're really serious about financial management and have more than one eye on profits.

Portfolio management programs. Speaking of profit, that's the central concern of portfolio management programs. This is the application with which your PC could really begin to earn its keep.

In their simplest form, portfolio management programs track investments, organize key information, and then generate reports designed to clarify the current status of your investment portfolio. Such programs are commonly advertised for \$100 or less in the classified sections of many computer magazines, but they

usually require manual entry and updating of your investment records. This represents an additional investment of time and energy in direct proportion to the size and complexity of your portfolio.

Generally, if you want conveniences like automatic downloading of the latest stock quotes and economic forecasts, you'll pay dearly for them—\$500 and up. What's more, you could end up buying several programs, each specializing in a discrete phase of portfolio management: one to help develop a sound investment strategy, another to collect and collate market data to pursue this strategy, and a third to monitor and analyze the performance of the securities portfolio you build around this strategy.

You can buy integrated packages that perform all these functions—Compu Trac from Compu Trac, Inc., for example, is widely considered the Cadillac of portfolio management programs, but it lists for \$1,900. Putting the pieces together yourself is somewhat less expensive, but it could still set you back \$1,000 to \$1,500. Again, seriousness of intent is all important in the decision to buy such software.

#### A CLOSER LOOK AT SPECIFIC PROGRAMS

Let's look now at some specific programs that fall into the categories described above. In the accounting category, we'll examine *Checks and Balances*, a popular program that's been available for several years. In the financial management category, we'll look at two programs mentioned previously: Andrew Tobias' *Managing Your Money* and Sylvia Porter's *Your Personal Financial Planner*. In the third category, portfolio management, we'll look at *Personal Portfolio Manager*.

These programs were chosen because they offer an idea of the range of features—and limitations—found in the various categories of personal financial software described above. Please note that these profiles are not full reviews and do not offer a complete picture of the products covered.

*Checks & Balances*. *Checks & Balances*, from CDE Software, is a powerful accounting program that offers many options found in professional, double-entry bookkeeping and accounting packages costing up to three times as much. *Checks & Balances* also does not demand anywhere near the amount of memory and/or disk space required by its higher-priced competition. The entire program (including several demonstration files) takes up less than 500K when installed on a hard disk.

One reason for its compactness is that *Checks & Balances* uses a command line rather than pull-down menus to initiate its operations. *Checks & Balances* also lacks a context-sensitive Help function—this keeps its size in check, but makes it a bit more difficult to learn and use.

Still, the command structure is reasonably intuitive (for example, you enter "TA" to select tax items), and most screens do include a fairly comprehensive, if sometimes cluttered, listing of options available for the operation you are currently performing.



This package requires 256K RAM, two 360K disk drives, one 720K drive, or a hard disk, and DOS 2.0 or later. It can be used with a monochrome, CGA, or EGA monitor. Output options include dot matrix, letter quality, or HP-compatible laser printers. One unique aspect of Checks & Balances is that it is still available for selected CP/M machines, including Kaypros.

Checks & Balances not only tracks your personal finances, but can also handle the bookkeeping needs of most small businesses or professional offices. In fact, were CDE to add some simple financial planning functions to Checks & Balances, the program could easily be considered a full-fledged financial management package.

To set up a budget, called a "checkbook" in the C&B vernacular, you first specify your budget categories (up to 128 are supported) and then begin entering projected expenditures. Each time you record a credit or debit, you specify the budget category against which the current transaction should be applied. Checks & Balances then automatically assigns that transaction to the appropriate category. In this way, any reports you request are as up to date as your latest entry session.

The program can split a single transaction among multiple budget categories, flag tax-related items, generate profit/loss and net worth statements (on a calendar or fiscal year basis), and perform a variety of other functions designed to keep you in control of your finances.

Checks & Balances includes a Rolodex-style name and address function. It can also generate labels and envelopes in a variety of user-definable formats.

All in all, Checks & Balances is a versatile and powerful program, especially when you consider its \$75 price tag.

Andrew Tobias' *Managing Your Money*. Managing Your Money has been around since 1983, but it has been updated often, so despite its old-timer status the program holds up well. It is currently available in Version 3.0.

This package requires 192K RAM, one 360K disk drive, one 720K drive, or a hard disk, and DOS 2.0 or later. It can be used with a monochrome, CGA, or EGA monitor. Output options include a variety of dot matrix, letter-quality, or laser printers.

Let's get the biggest "bummer" out of the way first: Managing Your Money is the only program profiled here that still uses some form of copy protection. It's only a "key disk" protection scheme, and the program only demands that this key disk be present infrequently, but any form of copy protection is an inconvenience to honest users, and virtually all software companies have eliminated copy protection in the past year or so. That complaint registered, let's move on.

For some reason, Managing Your Money uses the term "Chapter" to define its various program modules—Your Net Worth, Budget and Checkbook, Insurance Planning, Financial Calculator, etc. This might make sense if the "chapter" numbers in the program matched a corresponding chapter in the documentation. They don't, and the result is unnecessary confusion.

CONTINUED ON PAGE 24

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One can only speculate that Tobias' reputation as an author of several well-received financial books influenced this design decision. It shouldn't have.

Once you get past this minor design flaw, however, you'll find *Managing Your Money* is surprisingly easy to use. Context-sensitive Help screens nicely complement and ultimately supersede the program's 225-page, well-written User's Guide.

The program targets both the home and professional market. The User's Guide contains a short chapter (book chapter, not program "chapter") devoted to tips on how *Managing Your Money* might be used in a variety of professional fields: accounting, small business, retailing, farming, and the like.



*Managing Your Money handles a wide range of planning activities without undue complexity.*

*Managing Your Money* covers a wide range of financial planning activities—tax strategies, investment analysis, retirement planning, etc.—handling them all competently and without undue complexity. A variety of reports and onscreen graphics is available to keep you apprised of your current and projected financial status.

For an extra \$150, you can add Andrew Tobias' *Managing The Market* to your PC's economic arsenal. Using this ancillary program, you can easily (though not inexpensively) connect to the Dow Jones News/Retrieval service, download the latest stock quotes, and automatically update an investment portfolio created in *Managing Your Money*. Working together, the Tobias family of programs approach the capabilities of a full-fledged portfolio management package. The purchase price of *Managing The Market* includes five hours of connect time to the Dow Jones service.

Despite its quirks, *Managing Your Money* is a solid package. If you're looking for a simple program to introduce yourself to financial management on the PC, and can justify its \$195 purchase price, *Managing Your Money* may be a good place to start.

Sylvia Porter's *Your Personal Financial Planner*. If Tobias' \$195 price tag seems high, you might consider Sylvia Porter's *Your Personal Financial Planner* as an alternative. This program, first released in 1984, offers many of the same functions found in *Managing Your Money* at less than half the price.

While not as appropriate to business applications as Tobias' program, the Porter package should more than suffice for personal planning. Missing are the investment management functions found in *Managing Your Money*. These are available,

however, with *Your Personal Investment Manager* (\$99.95), a second program in Porter's Personal Finance Series, also distributed by Timeworks.

*Your Personal Financial Planner* requires 128K RAM, one 360K disk drive, one 720K disk drive, or a hard disk, and DOS 2.0 or later. It can be used with a monochrome, CGA, or EGA monitor. Output options include dot matrix and letter-quality printers.

The program uses pull-down menus to initiate most of its functions, including setting up a budget, entering transactions, tracking inventory, printing reports, displaying graphics, etc. This should make *Your Personal Financial Planner* fairly simple to use. And it does... for the most part. Unfortunately, not all menu options are where logic dictates they should be. Since the User's Guide neglects to include a complete listing of the program's menu structure, and there are no on-line Help screens, navigating the menus can be confusing until you get thoroughly used to the program. Once you find an option, however, lucid screen designs make entering any input that option requires fairly intuitive.

Other peculiarities also exist. For some reason, when installed on a hard disk, *Your Personal Financial Planner* requests that you insert a disk in drive C and press Enter to initiate certain program functions. The manual tells you to ignore these messages—and, indeed, doing so causes no discernible problems—but it's still an unnecessary distraction that could be eliminated with a little extra programming effort.

The program does, however, include a variety of options designed to enhance your money management efforts. Primary among these is the Financial Planning by Objectives module mentioned above. This online function uses your answers to a series of questions to determine the amount of money you must set aside annually, in both real and inflated dollars, to meet your long-term financial objectives.

Put simply, here is a financial planner well suited for personal use. Once you do learn the program and adapt to its minor idiosyncrasies, *Your Personal Financial Planner* should more than meet your personal financial needs.

*Personal Portfolio Manager*. A relatively new entry into the financial software market, *Personal Portfolio Manager* includes many extras once reserved for portfolio management packages costing several times as much.

This package requires 384K RAM, two 360K disk drives, two 720K drives, or a hard disk, and DOS 2.0 or later. It can be used with a monochrome, CGA, or EGA system. Output options include most dot matrix printers. A Hayes-compatible modem is required to use the program's Autorun feature.

*Personal Portfolio Manager* includes a variety of options designed to give you complete control over your investments. The number of portfolios you can track with *Personal Portfolio Manager* is limited only by your hardware—specifically, the amount of disk storage available on which to store your portfolios.

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using a simple "highlight and press Enter" menu structure. Navigating the program and its many functions is amazingly simple, even for first-time users. And once you specify an option, the program's unambiguous screen designs make entering and updating your data seem like child's play. Even if you do get confused, a context-sensitive online Help function is always available to clarify matters.

But why bother with such mundane housekeeping chores at all? Using its built-in Autorun functions, Personal Portfolio Manager can automatically call a commercial database, update your security quotes, and then print out the results of this activity for you to review at your convenience.

Personal Portfolio Manager supports a variety of import/export report formats, including Lotus 1-2-3, DIF, and ASCII, which allows easy transfer of a PPM report into most popular word processing programs.



*The portfolios you can track  
with Personal Portfolio Manager are  
limited only by hardware.*

Personal Portfolio Manager can even perform analyses on a variety of user-defined trading strategies. Once an analysis is completed, you simply flag any securities meeting the buy/sell criteria you specified and import them into your active portfolio.

A simple Ctrl-A keystroke calls up an onscreen calculator. While you may not want to prepare your income tax return using its limited capabilities, this four-function calculator (+, -, \*, /) is a godsend during many other more mundane operations.

A 40K New Terminal buffer lets you automatically retrieve selected information from any commercial database, which you can later print or store on disk.

In short, if you're contemplating getting into the portfolio management game, you should seriously consider this program. With its \$150 price tag, and supporting as wide a range of features as it does, it's hard to imagine a better bargain than Personal Portfolio Manager.

### WHICH ONE FOR YOU?

If your needs are clear-cut, choosing the right type of financial software should be fairly straightforward: accounting packages show you where you are, financial planning packages help you decide where you want to go and how to get there, and portfolio managers are for those seriously interested in tracking their investments.

### CP/M Software | MS DOS Software

7049	VDE: Version 2.5. Small, powerful editor takes up only 10k of memory.	125-127	PC-Type+ 1.0: This powerful word processor includes mail merge, a 100,000 word spelling checker, on-line help, and more. (3 disks) NEW!
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7000	NEW ADVENTURE: Enter into the Colossal Cave to find fortunes of treasures and gold.	322/348	GT POWERCOM 12.2: ANSI Standard terminal emulation, compatible with super-micro computers, Capture Mode, limited only by available disk space, Xmodem/CRC and Ymodem/CRC protocols, Kermit file transfer protocol, and an interactive script language to automate many repetitive tasks. (2 disks)
7080	ELECTRIC EASEL: High powered; w/block commands and printer (Epson or Gemini) capabilities.	501	PC-Calc: Spreadsheet has up to 26 columns and 255 rows.
7023	SMALL C COMPILER: Version 2.0. Expanded version of Ron Cains Small C. Includes sample programs.	757	Cartoons XXX: X-rated cartoons. ADULTS Only! Must be 21 yrs. or older. (Requires Color Graphics Adapter)
7068	COBOL: Compiles to interpreted code. Includes interpreter and full documentation.	829	Diversified Accounting Package: With dBASE III source (requires dBASE III): Enter the employee's time sheet, enter the supplier's bills, update the cost base, pay salaries, pay bills, enter incoming monies and more functions.
7377	GFont: Prints text on a printer using the high resolution graphics mode. Works on Epson and Gemini printers.	901&944	PC-FILE+ V1.0: User friendly filing system now features online help, math functions, & the ability to customize the Data Base to fit your personal needs. (2 disks)
7227-7230	THE BIBLE: The New Testament. King James version. Requires dual floppy drives or hard drive. (4 disk set. Must order all disks)	1305	The Boss: Helps implement Pop-up windows, pull down menus, status lines and in context on-line help. Also allows you to drag windows around the screen and automatically sense the video card installed. (Requires lattice C, Microsoft C or Computer Innovations C186 compiler)
7231-7242	THE BIBLE: The Old Testament. King James version. Requires dual floppy drives or hard drive. (8 disk set. Must order all disks)	1712	Mail Master: Enter names, addresses, etc. Information may be searched, sorted, & printed.
7062	MAGIKEY+: A key redefinition program; allows you to create and keep key definition files.		
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619-942-9998 (Foreign)

CONTINUED ON PAGE 26



But if you've never given financial software much thought, you may not be able to easily decide what you really need. In this case, the best bet is to start small with one of the accounting programs—you don't want to lose money on the very software that's supposed to help you get ahead, and anyway, you can always move up if you find your needs are more complex than you thought.

Once you decide which category of software is most apt to suit you, the next step becomes selecting a particular program from within that category. In this article, we've only been able to hit the highlights of the various categories and a very few programs, so plan on doing considerably more research before you buy. You'll need to check out the specific features of the programs you're interested in, and as with all software, it's best to try to see it in action before you choose a program.

But if it's well used, one of these programs might help you on your way to financial success—and give you one more solid application for your PC.

*Jack Nimersheim is an independent computer consultant and technical writer in Covington, Kentucky. He has worked with microcomputers since 1980 and specializes in training support and application programming for the professional environment.*

## QUICK REFERENCE SUMMARY

**Product:** Checks and Balances

**Manufacturer:** CDE Software

948 Tularosa Drive  
Los Angeles, CA 90026

**Phone:** (213) 661-2031

**Sugg. List Price:** \$74.95

**Product:** Andrew Tobias' Managing Your Money

**Manufacturer:** MECA Ventures, Inc.

355 Riverside Ave.  
Westport, CT 06880

**Phone:** (203) 226-2425

**Sugg. List Price:** \$219.95

**Product:** Sylvia Porter's Your Personal Financial Planner

**Manufacturer:** Timeworks, Inc.

444 Lake Cook Road  
Deerfield, IL 60015

**Phone:** (312) 948-9200

**Sugg. List Price:** \$99.95

**Product:** Personal Portfolio Manager

**Manufacturer:** Abacus Software

P.O. Box 318  
Grand Rapids, MI 49588

**Phone:** (616) 698-0330

**Sugg. List Price:** \$150

# Rendering unto Caesar – using your PC at tax time

While most financial management packages include functions to calculate your projected tax liability, there is another type of software far better suited to dealing with the fast-approaching April 15 filing deadline. In the past few years, a number of dedicated tax programs have surfaced—some good, some not so good, but all designed to simplify the annual American tax ritual.

Even the Federal government is beginning to recognize the value of using a PC to file tax returns. The Cincinnati branch of the Internal Revenue Service is currently participating in a pilot program that lets certain tax services electronically prepare and then transfer their clients' returns directly to that office's central computer. If this pilot program proves successful, other IRS offices will soon begin accepting such professionally prepared electronic returns.

Experts predict that in the not-too-distant future, individual taxpayers will also be able to file Federal tax returns via computer. Even now, however, you might consider purchasing a dedicated tax program.

Whether you need a tax program—and which tax program to buy, should you need one—depends entirely on the complexity of your return. If you file a 1040 or 1040A and don't itemize deductions, then don't waste your money on tax software. If, on the other hand, you own a small business (Schedule C), pay estimated tax (Form 2210), contribute to child support (Form 2441), run a family farm (Schedule F), realize capital gains or losses (Schedule D), or participate in any one of a dozen activities for which the IRS demands a dozen other forms and schedules, then a PC tax program could greatly simplify your tax chores.

One such program is The Federal Income Tax System (FIT) from Southwest Computing (P.O. Box 706, Santa Teresa, New Mexico 88008, 505/589-0999). Although certainly not the only such program out there, FIT is fairly representative of the philosophy behind most dedicated tax programs.

Totally menu-driven, FIT lets you select a function or tax form and then begin entering the information appropriate to that function or form. For example, you use FIT's Basic Information function (Menu Item 1) to enter your name, address, Social Security number, wages, number of dependents, and other general information. FIT then automatically shares this data with all other program options, where appropriate. Similarly, any calculations performed on Schedule C (profit or loss from business or profession) are immediately incorporated into any other forms or schedules that require data from this form.

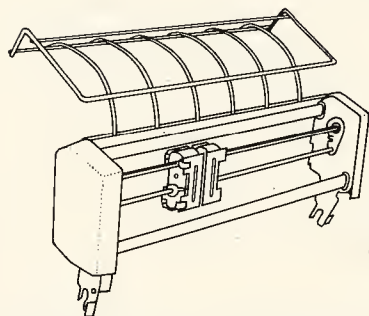
One advantage of FIT and other PC tax programs is that they allow you to perform "what if" exercises on your tax return. You may find, for example, that taking depreciation deductions over a shorter period of time actually saves you money in the long run. Find enough savings and your PC tax program could easily pay for itself. Furthermore, the cost of purchasing a dedicated tax program to help prepare your return is itself a tax-deductible expense. And that, my friends, is the best of both worlds.

—J.N. ■



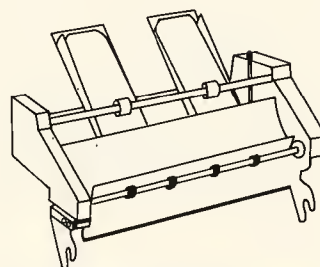
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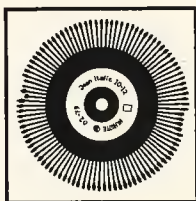
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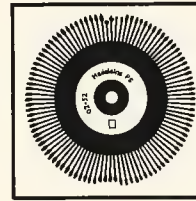
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Comprehensive system with most wanted features. Provides accurate and well organized financial information for your business. Programs adapt easily to your unique needs. Create, modify and list charts (3 formats); make new departments automatically. Easy journal entry process to enter, change, delete, list, save, increment reference #'s, duplicate data from prior entry, last 7 entries on display; source/run totals; validate account numbers at entry; prior period adjustments; repeating entries for depreciation, etc. Trial Balance high speed posting option plus trial balance report, worksheet, detail general ledger. Financial Statements (4 formats): current year, current and prior year, current quarterly, cumulative quarterly; report on prior period/s; variable # of current period months, optional disclaimer lines, show ratios with 1 or 2 decimals, optional computation of ratios based on non-income amounts. Budget Reporting (3 formats): remaining or variance (\$ and %); current, YTD, both; rerun prior periods; variable # months in current period. Full year Detail General Ledger. End-Of-Period makes backup file, updates repeating entries for next month, selects month/year end processing automatically; updates prior year's data. Accounting Transfer inputs data from other CPI Business Systems; posts; prints control reports; multiple transfers. Query Account/s to CRT or printer. Multi-client processing functions included for both CP/M and MS-DOS systems.

CAPACITIES: CP/M - 600 Accounts; MS-DOS - 2000 Accounts - 3-5 Digits for Account Numbers - 99 departments with 3.2 structure.

**\$100.00 ACCOUNTS RECEIVABLE \$100.00**  
CP/M MS-DOS  
Super system with Invoices, Service Invoices, Statements, etc. A full range of reporting abilities include Customer Reports, Ageing Reports, Transactions Reports, G/L Transaction List, etc. Auto billing feature eliminates mistakes. Sales can be distributed to 100 accounts. Build up statement option combines the virtues of ledger card history detail and the speeds of today's computers. Use preprinted forms and/or plain paper for invoices and statements.

CAPACITIES of 600 Customers (CP/M) 2000 (MS-DOS) - no limit on transactions, multiple customer disks OK.

**\$100.00 PAYROLL \$100.00**  
CP/M MS-DOS  
A complete payroll system supplied with current tax routines for every state. Multiple pay rates, multiple overtime rates, multiple other pay rates, eight user deductions (each can be an amount, a rate or %), deductions may be taken before or after taxes. Commissions, tips, tips considered as wages, earned income credit, SUI, SDI, etc. are all included. In short it's a very comprehensive payroll system but one in which is very easy to use. Its functions include Employee File Maintenance; Employee Lists in multiple levels of detail; Input Worksheets; Time Card Entry; Regular, Overtime, Other, Commissions, Tips, Misc. Pay. Exception Processing is the rule so you need only enter variable data. Manual checks are processed quickly and easily. Weekly, Bi-Weekly, Semi-Monthly, Monthly pay cycles (run individually or combined); Departmental Payrolls; Checks; Check Registers; Deduction Registers; Earnings Reports; 941's; W-2's; Unemployment Reports; Multi-state; Manual Checks; G/L interface for Federal, FICA, State and Local Taxes, Federal/State Add-Ons, FICA, FUTA, SUI, SDI, EIC, 8 user deductions.  
CAPACITIES - 600/2000 emp. (CP/M/MS-DOS), 98 Tax File Rcds.

**\$100.00 ACCOUNTS PAYABLE \$100.00**  
CP/M MS-DOS  
Improve your cash management with this fine system. You'll get the up to date accurate picture of accounts to be paid, cash requirements for the data on file. Payments and notes vouchered automatically insuring timely payments. Complete check writing included. The system reports include Vendor File Lists, Open Vouchers, Ageing By Due Date, Discount Date Ageing, Cash Requirements, Check Registers, G/L Transaction List, Query Vendor Status, Credit Vouchers, Deleted Vouchers.

CAPACITIES - 600 Vendors, (CP/M), 2000 Vendors (MS-DOS) - no limit on transactions.

**HARDWARE REQUIREMENTS**  
CP/M: 64K (53K TPA) & CP/M 2.0 or higher.  
MS-DOS: 128K (or more) & MS-DOS/PC-DOS 2.0 or higher - ANSI.SYS.  
Printer: 132 columns (compressed pitch supported), continuous forms.  
Disk/s: Dual Floppies/Hard Disk/Both - 191K recommended, less works.  
CRT: 80/24 with Clear, Home, Clear to EOL, Up, Down, Left, Right.

**CURRENT  
UPDATE:**

**WATCH THIS SPACE FOR IMPORTANT INFORMATION  
COMING IN THE NEXT ISSUE**



# LAP LINK

## The Ultimate Laptop and PS/2 Connection

They are still talking about LAP-LINK release #1. It has achieved virtually an unanimous editor's choice as THE solution for connecting Laptop PC's and the new IBM PS/2 series with any 5 1/4 inch disk PC. LAP-LINK eliminates the need to

purchase expensive external disk drives. Even if you own an external disk drive, LAP-LINK's incredible transfer speeds are much faster than a normal disk copy— transfer megabytes of information in just minutes! And since LAP-LINK weighs

only ten ounces (cable and disk), you can easily carry it with you for instant connectivity at any location.

Unlike other transfer programs, there is absolutely NO installation required to use LAP-LINK. No messy changes to your CONFIG.SYS file or

rebooting. Just type "LL" and LAP-LINK automatically connects itself. And LAP-LINK works between any version 2.xx or 3.xx of the MS-DOS/PC-DOS operating system.

LAP-LINK users couldn't agree more with Jerry Pournelle, "I don't

know if the manual is any good or not: I've never had any reason to open it. LAP-LINK is so thoroughly intuitive, fast and simple to use that the manual is blooming near superfluous. This is one of those products that sets standards: it does what it's supposed

to do, does it well, and does it without fuss or bother...."

Release 2 is now available at your local computer store. Get a jump on your friends, and check it out before everyone starts talking about it. **Call for FREE Laptop accessory catalog 1-800-343-8080 or 206-483-8088.**

### RELEASE 2 FEATURES

- Transfer speeds over 115,200 baud
- Turbo option increases speed up to 50%
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- Includes file tagging, XTREE disk management and directory sorting
- Can be used for hard disk backup to 3 1/2" floppies
- Supports all IBM PS/2 computers
- Includes both 3 1/2" and 5 1/4" disks with unique universal "4 headed" cable.
- **Still Only \$129.95 including cable.**

### They Are Still Talking

"Traveling Software's LAP-LINK is the most convenient transfer product...it does not require changes to the

CONFIG.SYS or AUTOEXEC.BAT files on either machine as the Brooklyn Bridge does...LAP-LINK transfers data even faster than the Brooklyn Bridge. It seemingly sets a record for the fastest transfer on a PC."

Howard Marks  
PC Magazine — July 21, 1987

"LAP-LINK IS NOTHING SHORT OF INCREDIBLE..."

Jerry Pournelle  
Byte Magazine — July 1987

Traveling Software



Circle 2 on Reader Service card.





# ANALYZING MUTUAL FUNDS WITH PROFITPLAN

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BY JEROME L. RUDERMAN

PHOTOGRAPHY BY MARK E. MYERS

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No-load mutual funds have become an extremely popular form of investment. Unfortunately, the multitude and variety of funds today can bewilder even the most savvy investor. If you are familiar with ProfitPlan (and for the purposes of this article, I'll assume you are), you already have a powerful tool for analyzing mutual fund performance. It can help take some of the guesswork out of selecting funds and give you an objective method for being in the right fund at the right time.

In this article I'll show you a simple, automatic way to measure the relative performance of any group of funds you choose to monitor. You will have an early warning system for spotlighting funds when they begin to stir or before they plunge. It is easy to learn, and once you set up your ProfitPlan spreadsheet, it takes only ten or 15 minutes a week to keep on top of your investments.

There are already hundreds of funds on the market and dozens of new ones are introduced every month. The latest twist is sector funds, which concentrate on single industries or invest in the stocks of particular regions of the world. The proliferation of funds offers wonderful new opportunities if you know which funds to buy, when to buy them, and when to sell them. It can also be treacherous if you don't.

For this article, let's track the Fidelity Select Funds (Fidelity's name for its sector funds). You'll find them under "Fidelity" in the "Mutual Funds" section of the financial pages of most

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WALL STREET WIZARDRY MADE EASY



major newspapers. About halfway down the list are about two dozen entries that begin with "Sel": SelGd, SelBio, etc. Those are the ones we're interested in. The "Sel" stands for "Select."

This time I'll supply the data, but when you begin doing your own spreadsheet, you'll need the NAV (Net Asset Value) closing prices for the most recent six weeks. You'll find them in the Saturday or Sunday edition of the newspaper. Cut them out, write the date on the top of each, and save them in a file folder. Each week, add the newest listing.

### CONSTRUCTING THE SPREADSHEET

Load ProfitPlan in drive A of your Kaypro. Using Command 13 (SET DRIVE), log on to drive B, which should contain a blank data disk.

Enter Command 14 (SET UP), and at the prompts, set your spreadsheet for 10 columns and 30 rows. Actually, we are only going to use eight columns and the 21 Fidelity Select Funds listed in the newspaper during September and October 1986, but we'll leave a few extra columns and lines in case you want to add more later on. New funds are added to the list regularly, and if you haven't left room, you'll need to re-dimension your spreadsheet with the SET UP command or you'll lose all your data.

---

*If you don't leave room for new funds, you'll have to redimension your spreadsheet.*

---

Enter Command 15 (SET CRT) to set up your screen display. ProfitPlan will ask you three questions. Respond with the answers shown below.

Number of Decimal Places?	2
Row Title Width?	9
Column Width?	7

Your screen will now show eight columns. Enter Command 10 (ROW RANGE). We'll begin with Row 1 and end with Row 21. Enter Command 11 (COLUMN RANGE) and begin with Column 1 and end at Column 8. These commands simply control the area of the spreadsheet that will be calculated and printed.

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Nancy Mulvany, Indexer

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References to specific Kaypro computer systems are listed under either "CP/M Kaypro computers" or "MS-DOS Kaypro computers." Similarly, operating system specific references are listed under either "CP/M operating system" or "MS-DOS operating system."

If you are looking for references to particular products, look first under "software products (commercial)" or "hardware products." Products that are discussed in relation to particular applications are listed by name as subject entries.

Public domain software for CP/M computers is listed under the heading, "public domain software (CP/M)." Those with MS-DOS computers should look under "shareware/public domain software (MS-DOS)."

In early 1987, *PROFILES* was published in two versions, one for CP/M, the other for MS-DOS. The page reference citations for these versions are of the following format:

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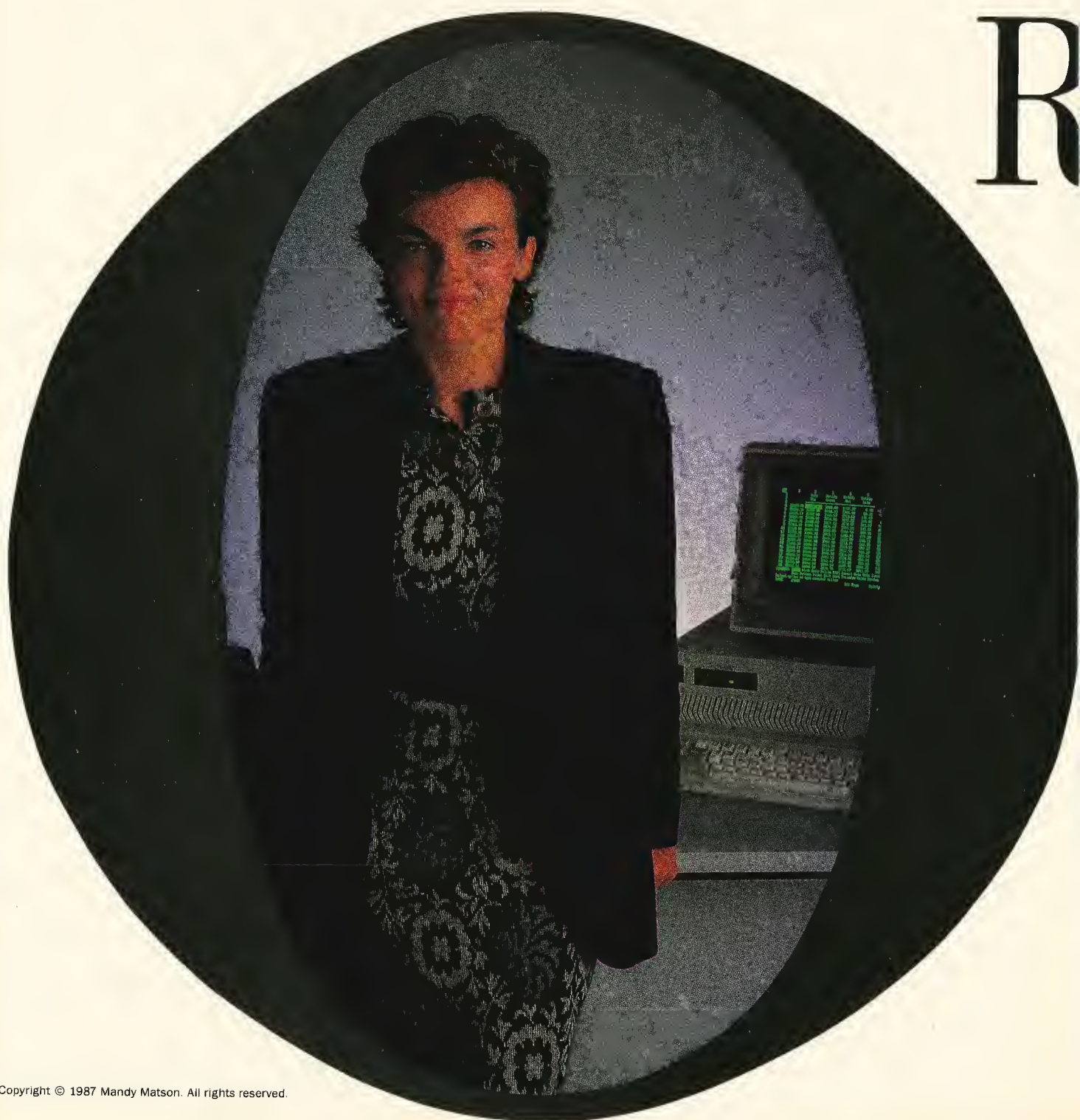
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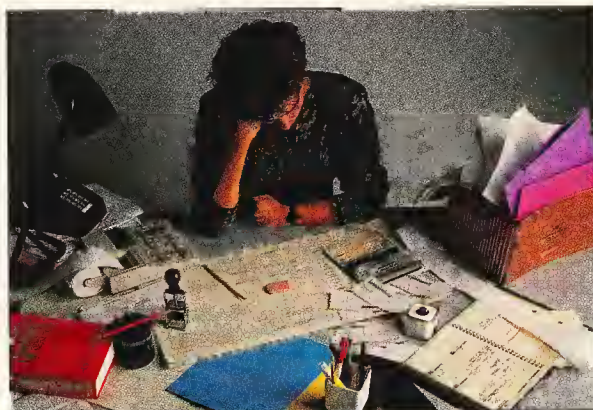
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# GANIZED



WORKING SMARTER INSTEAD OF HARDER

When I bought my computer three years ago, I envisioned it as a high-tech typewriter that offered me the luxury of revising manuscripts without retyping. Over time it's literally changed the way I write and organize, partly because I've learned from some awful mistakes.

As a full-time freelance writer, I can't afford to waste time over clerical tasks. Neither, I suspect, can most people who use their computers for work-related word processing.

Below are some suggestions that may be of use to you if you're new to computers—or even if you've been working with them for a long time.

## PREVENTING A MESS

My best piece of advice is to start organized, because it's easier than cleaning up a mess later.

Start with a disk filing system. Determine what types of categories you'll need to divide things into, and keep separate disks for each—but try to realistically assess how large your files might become. You may need to file by subcategories to allow enough space on each disk.

CONTINUED ON PAGE 44

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BY MANDY MATSON

PHOTOGRAPHY BY GLENN STEINER

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For instance, I write both scripts and articles, so I began with disks for each category. It didn't take long for me to fill them up, and I realized that I needed to break my categories down further. Now I keep a disk for each client or publication for whom I work, much like I keep a manila file folder in my filing cabinet. Within the disk file I keep manuscripts, notes, invoices, and correspondence.

I also keep hard copies of everything I have on disk. At the top of each, I write the name I've assigned it on disk. I've standardized my naming procedure to make it easier to distinguish various components in the file.

---

## *Keep hard copies of everything you have on disk.*

---

For instance, WordStar allows me a three-letter extension after the file name. All article file names end with "art," scripts end with "sct," letters end with "ltr," and so on.

To speed up the task of writing subsequent letters to the same person, I re-use the most current one in the file. If it's one I want to keep on disk (a rarity, since I always keep a hard copy), I simply copy the letter, change the date, and type over the body of the old letter. I do the same with invoices, scripts, and anything else requiring a particular format that takes a few minutes of setup.

Of course, one of the most important steps in organizing your disk files is to label them after you enter new information onto them. I use a waterproof marker (called a Sharpie) rather than a felt-tip pen. Never use a ballpoint pen when you're writing on a label already on the disk.

### **CLEANING UP A MESS**

If you've had your computer for awhile and the above sounds like something you wish you'd thought of six months ago, the task of organizing your files may seem formidable, but do it now. It will only get worse. Or resolve to start fresh from this point forward.

Actually, the "cleanup" isn't really difficult. It's just a little time consuming if you have a lot of files. I found it easier to manage when I had a block of uninterrupted time to devote to the task.

First I went through every disk and erased information I no longer needed. Once done, I listed the disk name and the files it contained on a sheet of paper. I looked at any whose names

I didn't recognize, and if they didn't fit into my current file labeling system, I renamed them to comply.

I listed what files belonged on which disk—on paper. Then I moved files from one disk to another until I had all of them where I wanted them. Once I'd checked to be sure they were on the right disks, I erased the original copy from the disk on which it no longer belonged. Finally, I made backups of my most important disks.

Which brings us to another significant subject.

### **SAFETY FIRST**

You'll probably never understand the importance of frequently saving your work and keeping backups until you've lost valuable information. It's only happened to me once, and I don't plan to let it happen ever again. To avoid it, I employ several safety strategies.

First, I frequently save my work-in-progress. That means that every time I finish a page or two, get a drink of water, answer the phone, or pause for thought, I type in the command to "save and resume." At the end of every work session, I print a hard copy of what I've done. That habit paid off when a bad disk drive ruined one of my disks.

Of course, a backup disk is also helpful in the above situation, but I don't take the time to create one until I have a substantial body of work. Risking having to retype a few pages isn't a big gamble; depending on remembering them is.

### **INCREASING YOUR PRODUCTIVITY**

While I've shifted my work load from my typewriter to my word processor, I haven't discarded the old machine. For most tasks, my computer is the indisputable favorite. But sometimes a typewriter is quicker and easier for small jobs like memos, checks, and envelopes. And I often use both machines at the same time to speed up "assembly line" work.

For instance, I recently queried several publishers about a book I want to write. I set the first letter up to my letterhead requirements (more on this later), and printed a hard copy for my file. I edited the hard copy, then made corrections on disk. I also labeled the copy with the file name and listed all other publishers to whom the same letter would be sent.

While my printer was printing the letter onto my letterhead, I typed a label for the manila envelope and typed a self-addressed envelope to ensure a response. When the printer was through, I simply made the necessary changes to the letter, then repeated the process.

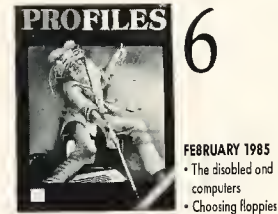
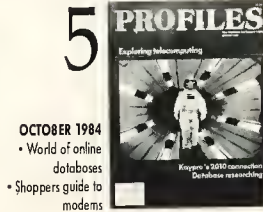
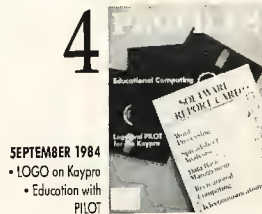
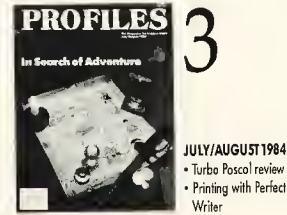
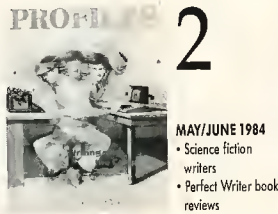
You don't have to be sending out a slew of letters to make your printing time productive. I always type my envelopes while the printer types my letters and manuscripts. I also use the time to organize (paper) files, catch up on my labeling, and clean up my work area.

Finally, your typewriter is a great backup when your computer's in the shop. While it may slow you down, it shouldn't

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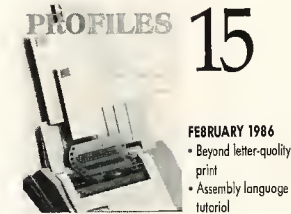
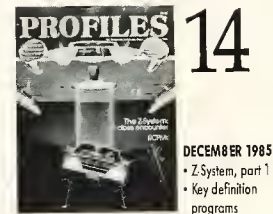
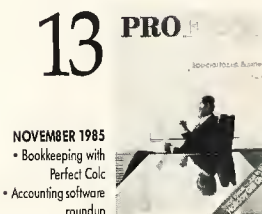
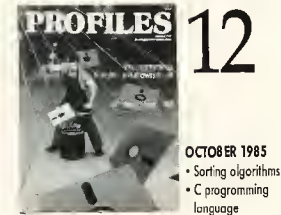
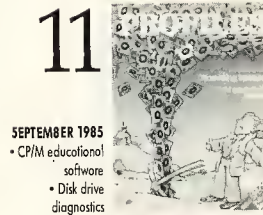
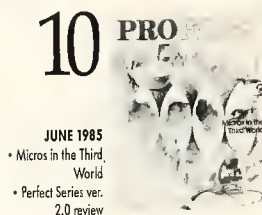
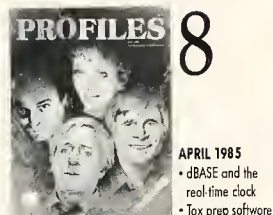
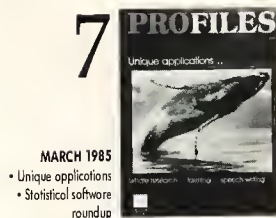
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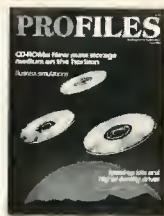
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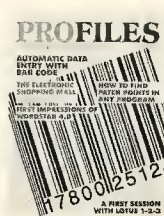
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stop you from being productive, especially if you've been printing out all your work as you've gone along.

### CREATING PERSONALIZED REFERENCE MATERIAL

If you use special letterhead, or frequently fill out the same type of form, you'll probably want to keep format guidelines for them.

For instance, when I type a letter on my letterhead, I like the date to fall two lines under my logo, a simple task on a typewriter. After some trial and error on my computer, I determined the best placement for everything. Then I wrote down the column and line numbers for where the date should be, as well as the margins I prefer, and I keep it in a "format" file near my computer.

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*If you use letterhead or pre-printed forms, keep format guidelines for them.*

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Since I don't use my letterhead every day, having written guidelines nearby helps to speed things up when I do use it.

A more difficult task was greatly simplified with the help of a grid I created. My husband's company frequently uses a proposal form that has space to fill in information about the customer and the job.

To determine how to translate a particular place on a pre-printed form to specific locations on my screen, I created a grid. Beginning with the first column, first line, I typed, "This is the first line." I typed "2" on the second line, "3" on the third, and so on, until I had all 55 lines identified.

Every fifth line I identified the columns in five-space increments, typing "5," "10," "15," etc.

Once this was completed, I determined a standard means of starting the paper in the printer (this is a crucial step), then printed my grid on lightweight paper. Once done, I held the page in front of the form and wrote down the "coordinates" for each space I would need to fill out.

Then I opened a new file and tested my grid by typing the location information at its own coordinates. For instance, the first line reads "Type customer's name on line 7. Phone: Column 40. Date: Column 60."

I typed other information (margins, tabs, where to place paper in the printer, and by which line text must end) into the body of the proposal form. Then I printed all the information

onto one of the forms to be sure it lined up.

Once I'd fine-tuned my instructions, I put the form into a file I use as reference whenever I fill out a proposal.

If you generate your own forms on your computer, create a "dummy" that you can copy whenever you need it, then tailor it for the job. I use this technique most often for scripts and invoices.

### GATHERING ALL THE ELEMENTS

Everyone has his own means of pulling information together for a document. For projects that require a lot of research, I dump all of my notes into one file while I'm researching. I try to categorize them as I go, but with a word processor, that can be attended to later with little effort, usually when I create an outline.

As I'm entering direct quotes into my file, I often think of something that would make a great lead or transition, so I go ahead and put that in, too. I also include any ideas for subheads and sidebars that occur to me and make notes I can refer to when I'm ready to tackle them. I frequently "flag" important thoughts and information with asterisks, or by putting them in bold print.

Once I've entered all my research and top-of-the-head thoughts into a file, I print it. A hard copy affords me a better opportunity to see the "whole picture," so I can determine if I need to reorganize.

I often begin my manuscript in my "notes" file (or a duplicate if I have reason to keep the notes intact for a future project) by "pushing" the notes down the first page before I begin and working in the insert mode. With my hard copy as reference, I can locate and move quotes, saving me retyping them. Once the manuscript is completed, I clear out the rest of the file by erasing extraneous information or by moving a block into another file.

### ONE STEP AHEAD

Your productivity level will remain high if you're one step ahead of your computer. Always anticipate and allow for the worst.

Establish and maintain a good relationship with your dealer—or, if yours goes out of business as mine did, find another dealer who can service your machine. Take your computer and printer in for preventive maintenance and get to know the service people by name; above all, treat them with the same respect with which you want them to treat your machine. A service person who's on your side can greatly speed up the process of getting your computer repaired.

Try to maintain control if a problem isn't fixed after one or even two trips to the shop. Servicing computers isn't an exact science; besides, you most likely need the person who can fix your computer more than he needs you. Establishing good rapport is the most efficient means of getting your computer back.

I once got a big break on a disk drive because the service person knew my repeat trips were costing me a lot of time, and she appreciated the self-control I exercised in her presence. From

CONTINUED ON PAGE 52



# WORKSTATION DESIGN

AN UNDERUSED KEY TO BOOSTING PRODUCTIVITY

BY DIANE INGALLS

If maximizing efficiency is what computers are really all about—and it is—then it's to your advantage to pay attention to everything that affects your efficiency.

Establishing work habits and organizational systems that keep you out of the clutches of chaos, as described in the accompanying article, is one aspect of achieving efficiency. Knowing the shortcuts possible with your software, using key redefinition programs, installing a RAM disk—the list of tricks for speeding up your work and increasing productivity goes on and on.

But no matter how supercharged your system is, no matter how proficient you are with the programs you use, one thing can still significantly undermine your efficiency, and it's something few people give much thought to: workstation design.

"As more and more of our work—from simple data entry to complex financial analyses—is done by people sitting and staring at display screens with their fingers on keyboards, we must pay particular attention to how this most common workstation is structured, organized and designed," writes Dr. Marvin J. Dainoff, director of the Center for Ergonomic Research at Miami University in Ohio, in "Ergonomics of VDT Seating," an article excerpted from his upcoming book on office ergonomics.

Dainoff defines the goal of the science of ergonomics as "optimizing the fit between people and the tools/equipment/environments they use. This is accomplished by studying the ways in which physical and psychological characteristics of people relate to the physical characteristics of the things people work with so that such work becomes easier, healthier, and more productive."

In one such study, Dainoff conducted a week-long laboratory simulation of data entry work in which operators alternated on successive days between "ergonomically optimal and suboptimal" workstations, and he measured both work performance and health complaints. Not surprisingly, participants had fewer health complaints while working under optimal conditions. More to the point, average improvement in work performance under optimal conditions was 24.6 percent. What manager wouldn't jump at the chance to improve productivity by so great a margin?

"We need to develop workstations that allow the users easy and comfortable access to their equipment and supporting materials," Dainoff contends. "Users need to be able to devote their strength and energy to working at their jobs, rather than trying to cope with poorly designed, uncomfortable chairs, work surfaces, and environments. It is a serious mistake to disregard these complaints."

Whether you're interested in improving your own work performance or are responsible for getting employees to do their best work, it pays to know something about how a computer workstation should be put together.

## WORKSTATION COMPONENTS

Jim Poleski, computer-aided design manager at Southwest Business Interiors in San Diego, California, works at a computer all day himself as part of a team that designs workstations and other office spaces for banks and other large businesses. Ergonomics is a big factor in such design, and the principles applied there can be applied equally well in assembling a workstation for your own home or office. Poleski listed the elements to consider and offered some guidelines for selection and placement of workstation components. He noted that it's possible to spend under \$1,000 or well over \$10,000 on computer furniture—the latter being high-end "executive" furniture incorporating materials like expensive woods and fine marble. But whether you buy state-of-the-art furniture from a showroom floor or build your own in your garage, the ergonomic considerations should be the same.

**Monitor Placement.** Although ideally the monitor should be at eye level to minimize muscle strain and fatigue, more practically it depends on how good a typist you are. "If you're a really good typist and don't have to look at the keyboard all the time, the screen should be at eye level," Poleski said. "But in my experience most computer users aren't especially good typists. For us mere mortals, the screen should be as close to the keyboard as possible so you don't have to shift your head up and down a million times a minute."

There are several products that provide an alternative to just setting the monitor on the desktop and making the best of it. One option is computer tables with adjustable platforms for both the keyboard and monitor. These platforms can be raised or lowered and tilted backward or forward to provide the most comfortable position for the operator.

There are also desktop monitor stands (adjustable) and shelf modules for placing the monitor at a comfortable height and angle.

**Keyboard Placement.** The keyboard should be 26 or 27 inches off the floor, depending on the user's height. The idea is to keep your forearms parallel to the floor when typing, or at just a slight angle, to minimize fatigue. Since standard desk height is 29 or 30 inches, simply putting the keyboard on the desk is not a good solution. If you have a detached keyboard, as Kaypro



owners do, there are several ways to put the keyboard at the proper height.

If you can afford high-end computer furniture, it may include a special unit, usually a corner unit separate from the desk, with a built-in, adjustable keyboard tray. The surface of such a unit, which also holds the monitor, is level and appears nearly seamless when the computer is not in use, but the keyboard tray swings down to the proper height for work sessions.

Much less expensive alternatives include products for "retro-fitting" a standard desk. One option is a simple keyboard tray that can be installed under the work surface of a desk, pulled out into position for work, and pushed back out of sight when not in use. Somewhat more elaborate—and more flexible—is a product called an "articulated arm." Also installed under the desk, this lets you swing the keyboard up into place at the proper height, tilt it to the most comfortable angle, swing it 90 degrees to left or right, and put it back beneath the desk when not in use.

**Lighting.** "Lighting always gets ignored until there's a problem," said Poleski, and usually the problem is sunlight or artificial light bouncing off the computer screen, producing glare and eyestrain. Positioning the screen to prevent glare from windows is part of the solution.

"There should also be a low light level in the room, with a task light on paperwork," Poleski said. If that's not feasible, light diffusers can cut down on glare from overhead lights.

"In lieu of that, you can use a glare protector, an after-market item for computer screens. But the idea is to come up with a light level to illuminate whatever material you're working with and not cause glare onscreen. You need to experiment. When you're working with computers, eyestrain will come anyway, but you can minimize it by adjusting the things that are under your control."

**The Chair.** Poleski said the chair is the most important part of a workstation, and the ability to move around in the chair—to shift your weight and not be stuck in one position for long periods—is the most important thing to look for when selecting a chair.

"Kneelers"—those backless stools with upholstered seats and knee rests often seen in home offices—don't do the job, according to Poleski. Nor do chairs that merely swivel and/or tilt backward.

"You should be able to tilt forward," he said, "in order to keep the spine straight while you're working." (The Sensor chair from Steelcase, an office furniture manufacturer, is the one he recommends.)

You should be able to adjust the height of your chair, and if you sit for long periods of time, you should have your feet on an angular support to promote circulation in your legs, Poleski said. Such foot supports are also available from office furniture companies.

(The design of your chair seat also affects circulation, according to Marvin Dainoff. In "Ergonomics of VDT Seating," Dainoff explains that major veins in the thighs return blood to the heart,

and when you sit, your body weight compresses these veins, slowing blood flow. Compression can't be avoided, he notes, but a contoured seat results in less pressure than a standard cushion with a 90-degree hard corner.)

**The Desk.** Though it doesn't affect comfort quite so directly as chair design, desk design clearly affects convenience and efficiency. The height of most desks, as mentioned earlier, is a standard 29 or 30 inches, and you're not apt to have much choice in that regard unless you choose an adjustable computer table rather than a desk per se. Adequate knee room and leg space are fundamental things to look for. A desk that doesn't hamper your movements contributes to both comfort and convenience.

The shape of the desk also affects efficiency, and some furniture designers advocate "surrounding the worker with the workspace" for maximum efficiency. According to a Steelcase brochure, for example, "Curved tops provide the greatest ergonomic benefits. The curved corner brings reference work closer and allows room to place a display terminal at a comfortable distance. Curved corners extend reach both left and right, increase the useable work surface, and reduce the physical effort and movement required to shift from one side of the work surface to the other."

Getting rid of clutter on and around your desk is also an obvious but often-ignored step toward greater efficiency, and Poleski said that when designing office workstations, his company makes sure workers have adequate shelving and storage space. He added that wires and cables can be kept out of the way by using space-dividing panels with "raceways" for outlets and cables. The latter are particularly useful in offices with computer network systems.

## COMFORT AND CONVENIENCE ARE THE KEYS

These guidelines are just that—guidelines. For one thing, everyone is built differently and has different physical strengths and limitations, so what's right for one person may not be completely comfortable for the next.

Furthermore, even the experts aren't yet sure what works best. As Dainoff notes, "It's important to stress that the applied science of ergonomics is in a state of rapid change. Many of the issues that are crucial to good workstation design are still quite controversial."

The only way to tell whether your workstation works for you is to pay attention to how you feel. If your head aches, your eyes burn, and the muscles in the middle of your back are in a knot after a couple of hours of work, you have your answer: something needs fixing. If you can work comfortably and well for several hours at a time, you've probably got it right. The bottom line is that if you—or your employees—are uncomfortable, don't shrug it off: the resultant loss in efficiency and productivity is too great to ignore. ■

Diane Ingalls is a contributing editor for PROFILES Magazine.



So far, so good. Now, enter the names of the mutual funds we're going to analyze. Use Command 20 (ROW TITLES) and enter the names of the Fidelity sector funds. See Figure 1.

Fidelity Select Funds One and Five Week Percent Change								
	5 WK % CHANGE	1 WK % CHANGE	9/19	9/26	10/3	10/10	10/17	10/24
	---1---	---2---	---3---	---4---	---5---	---6---	---7---	---8---
1 SelGold	-5.34	-1.85	12.35	11.92	12.16	12.25	11.91	11.69
2 SelBioTec	3.64	2.46	10.45	10.51	10.59	10.47	10.57	10.83
3 SelBrkge	5.44	-1.82	11.76	11.75	12.22	12.51	12.63	12.40
4 SelChemic	3.26	-0.52	14.73	14.87	14.83	15.01	15.29	15.21
5 SelComput	7.92	2.15	10.99	10.90	11.21	11.29	11.61	11.86
6 SelDefens	1.43	-0.27	14.65	14.87	15.00	14.92	14.90	14.86
7 SelElectr	0.58	0.94	8.55	8.52	8.66	8.53	8.52	8.60
8 SelElUtil	3.05	1.20	9.85	9.94	10.01	9.96	10.03	10.15
9 SelEnergy	1.76	-0.90	10.82	10.89	11.00	11.15	11.11	11.01
10 SelFinanc	2.11	0.00	31.72	32.24	32.00	32.19	32.39	32.39
11 SelFood	0.79	-0.85	13.96	14.07	13.89	13.99	14.19	14.07
12 SelHealth	5.83	1.82	31.22	31.46	31.64	31.82	32.45	33.04
13 SelLeisur	5.80	0.09	20.35	20.77	21.02	21.45	21.51	21.53
14 SelMtl	-14.46	-6.93	11.75	11.21	11.35	11.41	10.80	10.05
15 SelPaper	-0.85	-0.34	11.71	11.63	11.64	11.73	11.65	11.61
16 SelRetail	7.06	0.62	10.62	10.73	10.89	11.09	11.30	11.37
17 SelS&L	2.59	-0.73	11.96	12.22	12.38	12.38	12.36	12.27
18 SelSoftwr	8.13	2.63	11.56	11.58	11.73	11.86	12.18	12.50
19 SelTech	0.21	0.52	19.14	18.88	18.84	18.71	19.08	19.18
20 SelTelCom	2.74	-0.47	12.42	12.59	12.56	12.65	12.82	12.76
21 SelUtil	2.13	0.74	26.71	27.03	27.07	26.98	27.08	27.28

FIGURE 1

Press the DELETE key to get out of ROW TITLES and enter Command 25 (COL TITLES). Move the cursor to column 1. Enter the following headings on columns 1 and 2, respectively, using two lines for each, as follows:

5 WK %	1 WK %
CHANGE	CHANGE
---1---	---2---

Enter the dates 9/19, 9/26, 10/3, 10/10, 10/17, and 10/24 in columns 3 through 8. (See Figure 1.) Hit the DELETE key when you are finished.

Enter Command 34 (SELECT COL) and set the cursor on column 3. Then enter Command 31 (ENTER) and 0 (VALUES). The cursor should now be on Row 1, Column 3, waiting for you to enter in Column 3 the closing NAV of the 21 funds. If you were actually setting up your own spreadsheet, you would refer to the NAV column of the oldest of the six sets of weekly closing prices you have put aside. Sometimes the NAV column is called SELL. This is the price you would get if you redeemed (sold) your shares back to the company that day. The other column, labeled BUY, will have a slightly higher price. It is what the company charges when you buy the fund. It includes the sales commission. (Fidelity's commission on sector funds is two percent). For no-load funds, NL appears in the buy column. Remember that the NAV is the lower of the two.

If you use the Sunday paper, keep in mind that it compares the weekly closing prices and gives the high, low, and close for

the week. Use the column marked "close."

For now, refer to Figure 1 and copy the closing prices for columns 3 through 8. Double check your work. A mistake when you're investing your own money could be costly.

Press DEL to clear the previous command and move the cursor to Column 1. Use Command 35 (FORMULA) and enter the formula  $(L8-L3)/L3*100$ . Hit (RETURN) and watch the five-week percentage changes appear in column 1. The formula simply tells ProfitPlan to subtract the figures in column 3 from those in column 8 and divide by column 3, which gives us the percent change. Multiplying by 100 expresses the result as a decimal. Be sure to place the parentheses exactly as shown.

The cursor should now be waiting for you at the top of column 2. Enter Command 35 (FORMULA) again, but this time type  $(L8-L7)/L7*100$ . Hit (RETURN) and watch the one-week percent changes zip into place in column 2. I'll explain how to interpret these columns later on.

You have now completed the spreadsheet. Before we can print it, we must specify some printing directions. Enter Command 71 (OPTIONS) and ProfitPlan will ask you a series of questions regarding printing. Set row description width to 12, column width to 8, number of columns per page to 8, number of decimal places to 2, page control to 1, and everything else to 0.

Enter Command 72 (TITLES). You might call the report FIDELITY SELECT FUNDS/ONE AND FIVE WEEK PERCENT CHANGE. Your printout should look like Figure 1. Save the spreadsheet with Command 62 (SAVE). Call it FIDELITY.

#### UPDATING THE SPREADSHEET

Let's now assume a week has gone by and you've loaded the table using Command 61 (LOAD TBL). Enter Command 25 (COLUMN TITLE) and move the cursor to column 3. Change the date from 9/19 to 10/31 and exit COLUMN TITLES with the

*Every week, eliminate the oldest data from the spreadsheet and replace it with the newest.*

DELETE key. Enter Command 34 (SELECT COLUMN) and choose column 3. Enter Command 31 (ENTER) and select Option 0 (VALUES). Now, very carefully type the NAV figures for 10/31 in column 3. Simply overwrite the old figures. Double check for accuracy and hit DELETE.



We have actually eliminated the oldest week from our spreadsheet and replaced it with the newest. It only remains to put it in the proper order, so enter Command 28 (REORDER COLUMNS). When it prompts you for "Old Column," enter 3; for "New Column," enter 8. Hit (RETURN) and watch ProfitPlan move your new data into Column 8 and shift all the others one column to the left. Think of this as a window in which the columns scroll from right to left each week as we add the newest prices. Compare Figure 1 with Figure 2 to see what has happened. (If you've ever tried moving a column of formulas in Perfect Calc you can appreciate the power of ProfitPlan's Reorder Command.)

Now move the cursor to Column 1. You will have to re-enter the same formulas in Columns 1 and 2 that we used last week. Unfortunately, ProfitPlan adjusts formulas to reflect new column location every time you reorder them. However, if you have a key redefinition program, it's easy to make a macro for each. Then, after you've entered Command 35 (FORMULA), you need only hit two keys. I've put COMMAND 35 and both formulas on one macro, which takes care of the operation with a single keystroke. Remember, the formula for Column 1 is  $(L8-L3)/L3*100$ ; for Column 2, it's  $(L8-L7)/L7*100$ .

When you have entered the formulas, the new percentages will compute automatically in columns 1 and 2. Be sure you position the cursor correctly or you will enter the calculation in the wrong column and really mess up your spreadsheet. Save the table with Command 62 (SAVE TABLE), print it, and turn off your computer and printer.

We'll now learn to interpret the results, and for that we only need a pencil. You may use the same table name, FIDELITY. It doesn't matter at this point if we overwrite the old table.

## INTERPRETING THE RESULTS

We are going to look for the top 20 percent of the funds in the five-week column. Since we have 21 funds, we want the top four. Scan the list and put a pencil mark next to them. Then—and this is very important—also mark the one-week percentage figures for those same funds. See Figure 2. Notice the mark I've made to the right of SelBrkge, SelComput, SelSoftwr, and SelRetail in both columns 1 and 2.

In the free space at the bottom of the printout, make two columns. In one, list in rank order the top funds in the five-week column. In the other, list the same funds according to their one-week performances. (I like to put a vertical line through my mark as I finish with each. It makes the job easier.) The two lists should look like this:

5 Week		1 Week	
1. SelBrkge	+ 12.09%	1. SelBrkge	+ 6.21%
2. SelComput	+ 10.83%	2. SelRetail	+ 3.08%
3. SelSoftwr	+ 9.33%	3. SelComput	+ 1.85%
4. SelRetail	+ 9.23%	4. SelSoftwr	+ 1.28%

Clearly, the winner is SelBrkge. It is up 12.09 percent in the last five weeks, and 6.21 percent in the most recent week. A good second choice would be SelRetail. It's strong over the five-week trend and is second best in the one-week competition. All we have really done is to run our funds through a five-week screen, and then run the winners through a one-week screen.

FIDELITY SELECT FUNDS ONE AND FIVE WEEK PERCENT CHANGE									
	5 WK % CHANGE	1 WK % CHANGE	9/26	10/3	10/10	10/17	10/24	10/31	
	---1---	---2---	---3---	---4---	---5---	---6---	---7---	---8---	
1 SelGold	-2.18	-0.26	11.92	12.16	12.25	11.91	11.69	11.66	
2 SelBioTec	7.61	4.43	10.51	10.59	10.47	10.57	10.83	11.31	
3 SelBrkge	12.09	6.21	11.75	12.22	12.51	12.63	12.40	13.17	
4 SelChemic	5.45	3.09	14.87	14.83	15.01	15.29	15.21	15.68	
5 SelComput	10.83	1.85	10.90	11.21	11.29	11.61	11.86	12.08	
6 SelDefens	1.14	1.21	14.87	15.00	14.92	14.90	14.86	15.04	
7 SelElectr	1.06	0.12	8.52	8.66	8.53	8.52	8.60	8.61	
8 SelEUtil	5.23	3.05	9.94	10.01	9.96	10.03	10.15	10.46	
9 SelEnergy	3.03	1.91	10.89	11.00	11.15	11.11	11.01	11.22	
10 SelFinanc	1.36	0.90	32.24	32.00	32.19	32.39	32.39	32.68	
11 SelFood	1.78	1.78	14.07	13.89	13.99	14.19	14.07	14.32	
12 SelHealth	8.17	3.00	31.46	31.64	31.82	32.45	33.04	34.03	
13 SelLeisur	4.61	0.93	20.77	21.02	21.45	21.51	21.53	21.73	
14 SelMtl	-9.19	1.28	11.21	11.35	11.41	10.80	10.05	10.18	
15 SelPaper	-1.55	-1.38	11.63	11.64	11.73	11.65	11.61	11.45	
16 SelRetail	9.23	3.08	10.73	10.89	11.09	11.30	11.37	11.72	
17 SelS&L	3.27	2.85	12.22	12.38	12.38	12.36	12.27	12.62	
18 SelSoftwr	9.33	1.28	11.58	11.73	11.86	12.18	12.50	12.66	
19 SelTech	5.51	3.86	18.88	18.84	18.71	19.08	19.18	19.92	
20 SelTelCom	4.37	2.98	12.59	12.56	12.65	12.82	12.76	13.14	
21 SelUtil	3.74	2.79	27.03	27.07	26.98	27.08	27.28	28.04	

FIGURE 2

## TRADING RULES

Now for a few trading rules:

Rule 1: Select only from the top 20 percent of funds in the five-week ranking.

Rule 2: If the winning fund in the five-week ranking is also first in the one-week ranking, that's the fund you invest in. That is the ideal situation, but you won't always be so lucky. If a fund is first in the five-week list but not in the one-week, look for the second best five-week fund. If it is first in the one-week ranking, that's the one to buy. If not, continue looking for the next fund among your five-week winners until you find one that is in first place in the one-week list. The one-week ranking is important, because it confirms that a fund that has a good five-week record is still strong.

Rule 3: If a fund is negative in either ranking, do not buy it regardless of its rank. Avoid losers.

Rule 4: If you cannot find a fund that meets these criteria, put your money in a money market fund and wait for better conditions.

Rule 5: Hold your fund as long as it remains in the top 20 percent of the five-week ranking. If it drops out of the top 20 percent and remains out for two weeks, switch to another fund according to our rules.

That's all there is to it. You may want to refine the system to

CONTINUED ON PAGE 52



fit your own personality or goals. You might, for example, extend the range to ten weeks instead of five or limit your choice

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*Hold your fund as long as it remains in the top 20 percent of the five-week ranking.*

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to the top 25 percent of funds instead of the top 20. That's fine, but remember: Whatever rules you make, stick to them.

#### HANDLING DISTRIBUTIONS

Occasionally, a fund will make a capital gains and dividend distribution. You'll know this because the NAV will drop by that amount. Don't panic. You will receive the distribution either as cash or as additional shares, depending on how you have set up your account. But you must update that fund for the previous five weeks. You can find the amount in a section of the financial pages labeled "Dividends Declared." If you miss it, call the company and ask for the amount. Subtract it from the earlier weeks to bring the old NAVs in line with the new one.

One final word: There will be times when the stock market suddenly shoots up or down and you get caught. No system is perfect, nor can it anticipate those one-day fluctuations of 60 and 80 points in the Dow Jones Industrial Average. You just have to accept them. However, this system does prevent you from staying with a loser for more than two weeks, and it certainly helps you identify a new rising star in time to enjoy the ride. Try it for a few weeks before you invest any money and see how well you do on paper. You should be comfortable with the mechanics of the system and confident that the concept works before you take the plunge. ■

*Jerame L. Ruderman is head of the social studies department at Frankford High School in Philadelphia, where he teaches history and economics. He uses his Kaypro to track his investments.*

then on, I've received priority treatment and a number of favors that have saved me time and money.

Service people are a good source of advice, and most are eager to give it (aren't we all?). Don't hesitate to call with questions about funny noises or something new and strange your machine is doing. Catching problems in an early stage may save you ruined disks or a larger service bill as a problem progresses.

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*Establish and maintain a good relationship with your dealer.*

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Speaking of preventing problems, get in the habit of keeping important supplies on hand. Running out of ribbon for your printer can be extraordinarily frustrating, particularly if you have to order it from a dealer. I buy mine by the dozen and reorder when I'm down to two. I also buy cheap computer paper and disks in quantity. I format the entire box of disks at one time so they're ready when I need them.

#### TAKE TIME TO MAKE TIME

If you think all of this organizing sounds time consuming, you're right. But you'll save more in the long run if you've got everything at hand and in place whenever you sit down to work. Besides, the organizing tasks are always a great excuse for procrastinating until you're ready to write. ■

*Mindy Matsan's freelance work includes writing and producing commercials, and corporate and educational TV programs; and writing articles on anything from breastfeeding babies to using a video camera. Her articles have been published in Parents, Sunday Woman, The Independent, and North Carolina Business.*

*Mandy organizes her thoughts with the help of WardStar on a Kaypro 2X '84.*



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# LOOKING AT







# DATA IN MANY WAYS

## A FIRST SESSION WITH REFLEX: PART 1

**R**eflex, the Analyst, is a powerful, easy-to-use database analysis program from Borland International for MS-DOS computers. Though you can use it for all the operations expected of a database manager (creating files, entering data, and printing reports), its strongest points are data importation—reading files from other programs—and data analysis.

Reflex can read files from dBASE II and III, the PFS series, Lotus 1-2-3, and Symphony, as well as from any program that can produce DIF or ASCII files. Then, using information from these files or files created with Reflex itself, you can perform sophisticated data analysis, including complex data screening, averaging, and statistical operations.

Reflex, the Analyst, is actually made up of two programs: Reflex, which includes “View” features offering Form, List, Crosstab, and Graph views of data; and Reflex 2, which includes a Report View and data translation, graph printing, and file merge features.

Through step-by-step creation and manipulation of a small database, we’ll see how Reflex employs these various features and makes difficult data manipulation seem easy. This month, in part one, we’ll show you how to create a database and define

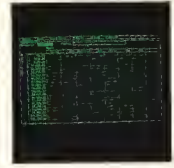
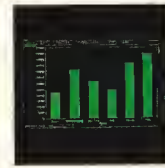
CONTINUED ON PAGE 56

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BY DANIEL L. SCHUSTER

PHOTOGRAPHY BY GLENN STEINER

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a data entry form, and we'll introduce you to Reflex's Form View, List View, Graph View, and Crosstab (Xtab) View. Next month, in part two, we'll cover the features of Reflex2. A future article will build on this two-part introduction, presenting more advanced uses of the Views—for example, sorting your database on multiple fields and filtering records so that you only see the ones meeting certain criteria. In part 2 we'll also suggest books that will help you learn the more sophisticated features of this program.

In both parts of this article, we'll assume you are familiar with database components and terminology (records, fields, etc.)

### RUNNING REFLEX

To run Reflex, your computer must have CGA, Hercules-compatible, or EGA graphics. Reflex uses graphics mode to put more information on the screen than is normally possible and to display its graphs. You can run Reflex from one floppy and 384K of memory, but a hard disk and all the memory you can get (Reflex will use expanded memory) is recommended. For the rest of this article we will assume that you are running Reflex on a hard disk system and that you have already copied the Reflex files onto your hard disk.

Reflex comes installed for CGA video. If you are not using CGA, install Reflex by running the RINST program (or RFLXINST, depending on which version you have). Run the program by typing **REFLEX** and pressing **Enter**.

### NAVIGATING THE MENUS

After starting Reflex at the DOS prompt, you'll be presented with an opening screen featuring interlocking boxes that depict the four Views available in the Reflex program. (Remember, the Report View is part of the second program, Reflex2.) Press the slash key (/) now and you'll see the main menu:

#### Views Edit Print/File Records Search

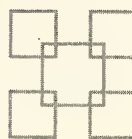
The "Views" option will have a highlighted bar over it and a pull-down menu below it for selecting ways of viewing data. (As you use the program, you'll notice that depending on where you are in the program, some menu options will not be available. When a menu option is available, it is shown in bright letters; if it's not currently available, it's shown in dimmed letters.)

All Reflex commands begin with the / key. Issue commands by pressing the / key and then making a selection from one of the menus. Use the left and right arrow keys to move the highlighted bar to the heading you want. When you move to a new heading, a pull-down menu will appear under that heading. Then use the up and down arrow keys to move a smaller highlighted bar to the command you want and press **Enter** to execute the command.

### COMMAND SHORTCUTS

Once you become familiar with the menus, there's a faster way

to issue commands: Press the / key, followed by the first letter of the menu heading you need and then the first letter of the desired command. We will describe our commands this way, spelling out the menu and command selections in parentheses.



*Once you're familiar with the menus, it's faster to use the / key followed by menu and command initials.*

Some Reflex commands can also be executed with function keys, as listed below:

F1-help	F2-help
F3-row select	F4-column select
F5-find	F6-next view
F7-previous record	F8-next record
F9-recalculate	F10-choices

We'll use them when possible, explaining their functions as we go along. The F1 key, for instance, brings up Reflex's excellent context-sensitive help. The F10 key is frequently used when issuing a command that requires you to follow up with a choice. Whenever possible, Reflex helps you with the F10 key. Pressing this key will display a window containing available choices. Use the cursor keys to highlight your selection, and then press **Enter**. For example, when you need to load a database file into Reflex, the F10 key will call up a list of Reflex databases available.

### FORM DESIGN

You now have enough background information on Reflex to begin using the program. To find out what Reflex can do, let's design and implement a small database, enter data into the database, and then analyze that data. First we must decide what information the database will contain and design a data entry form so the person keying in the data will know what information to enter. With Reflex, both of these operations are accomplished when you design the data entry form. As an example, we'll create a small sales database for a business that sells office equipment.

Using the arrow keys, move back to the Views menu, highlight Form, and press **Enter**. Normally this would give you a Form View of whichever database you had selected and loaded into memory. But, since you haven't loaded a database, Reflex assumes that you want to define a data entry form for a new database, so a Form Design screen appears.



Start by moving your cursor to the upper left corner of the screen. Now type **Customer** and press **Enter**. You've created a field called Customer. Using only the arrow keys, not the spacebar, return your cursor to the same line on which you entered "Customer." Then move the cursor to the right 20 spaces, type **Agent**, and press **Enter**. Now you have another field. That's all there is to creating a field in Reflex. Continue using the arrow keys to position the fields where you'd like them. Make your screen look about like this:

<b>Customer</b>	<b>Agent</b>
<b>Product</b>	
<b>Quantity</b>	
<b>Cost Each</b>	<b>Total Cost</b>

Remember that after you type each field name, you must press **Enter**. Also make sure you position the fields with the arrow keys and not the spacebar, or you'll be creating a label, not a field name (more on this below).

#### MODIFYING THE DATABASE FORM

Making changes is easy, but you should note that Reflex holds the entire database in memory, and the changes aren't actually recorded on disk until you save your database.

**Changing Field Names.** To change the name of a field, move your cursor to that field, retype the field name as you would like it, or press the F2 (Edit) key and edit the existing name.

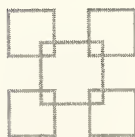
**Moving a field.** It's also easy to move a field on the form. Highlight the field, then press / F M (Form, Move Field). Now use the arrow keys to move the "shadowbox"—the box formed by dotted lines—to the location where you want the field to appear and press **Enter**. The field name now appears in that location and disappears from the old one.

**Deleting fields.** Highlighting a field and pressing the DEL key deletes that field from the database. If you've stored data in the database, Reflex will ask you to confirm the deletion. When you delete a field, you also delete any data associated with that field.

**Inserting and Deleting Lines.** You may find that the data entry form would be more readable if you added one or more blank lines between the fields. Also, if you have been editing the form, you may have blank lines that you wish to remove. To do this, move the cursor to the line and press the INS key (to add a line) or the DEL key (to eliminate a line). If you want to delete a line with a field name in it, you must delete the field name before Reflex allows you to delete the line itself.

To exercise your ability to edit the data entry form, let's add two labels to the top of the form to clarify what the form is for: a company name and a form title. It's important here to note the distinction between field names and labels. Up until now you have been entering field names on the data entry form—information categories that are added to the database. Labels

merely tell the person using the form what it's for; they are not fields in the database. Reflex needs to know when you're entering something that's just a label and not a new field. To do this, type a single quote (') or a space before the label. This tells Reflex that you are entering a label and not a field name.



To tell Reflex you're entering a label, not a field name, type a single quote or space first.

To add the two labels, move your cursor to the top left of your form and press the INS key six times. This will move the "Customer" field to line seven and leave your cursor on line one. Put your cursor on line two and use the right arrow key to move it over to column 23. Now type 'Very Best Business Supplies (don't forget the leading quote) and press **Enter**. Next, move your cursor to line four, column 29, type 'Sales Data Entry, and press **Enter**. Your data entry form should now look like this:

'Very Best Business Supplies

'Sales Data Entry

<b>Customer</b>	<b>Agent</b>
<b>Product</b>	
<b>Quantity</b>	
<b>Cost Each</b>	<b>Total Cost</b>

You've just added two labels to identify what company the database is for and what type of data it contains. Now you are ready to begin entering the data.

#### THE FORM VIEW AND ENTERING RECORDS

Your database form is now designed, so you're ready to use it to create records. To exit Form Design, press / F E (Form, Exit Design). Reflex automatically puts you in the Form View with the cursor on the first field. (In the upper left corner of the screen, just under the menu, is the word FORM. Reflex always tells you which view is currently active in this manner.)

The Form View is the simplest way of looking at your data

CONTINUED ON PAGE 58

(one record at a time) and it is also the best, most intuitive way to manually enter data. Your cursor should already be on the first field. Type the customer name as shown below, then press Enter to move to the next field. Enter all the information shown below in the first record. Stop before entering anything in the Total Cost field.

**Customer:** Acme Hardware

**Agent:** Rob

**Product:** Oak desk

**Quantity:** 3

**Cost Each:** 440

**Total Cost:**

Your cursor should be sitting next to "Total Cost:" on the last line of the form. This field is going to be different from the others—it will be a calculated field. All the other fields have information entered manually, but Total Cost will be calculated from the contents of the Quantity and Cost Each fields. Since Total Cost is a calculated field, you must enter a formula, rather than data. Type **= Quantity \* Cost Each** and press Enter. As soon as you press Enter, the number "1320" should appear in the Total Cost field. From now on, this field will be calculated automatically when you press Enter after typing data into the Cost Each field.

If you make a mistake, the Shift-Tab, left arrow, and up arrow keys will move you backward through the fields to the one you want. The Tab, right arrow, and down arrow keys will move you forward. At each field you may retype the entire field, press F2 (the Edit key) to make small changes to existing data, or press Enter to accept the information already there.

When you are finished with this record, Reflex will not move to the next record until you press the F8 key. Pressing F7 will move you to the previous record if one exists. Enter the following information in the records, then check it using F7 and F8. You can move to the top of your database using <Shift> F7 and to the bottom with <Shift> F8.

Continue entering data until all the information shown below is in the database.

Customer	Agent	Product	Quantity	Cost Each
Best Sales	Jim	lamps	4	44.95
HDA Corp.	Sally	typewriter	2	330
Tico Computer	Rob	ribbons	100	2.75
Ramirez Auto	Jim	carton of forms	15	35
CEU	Sally	computer systems	30	950
HDA Corp.	Sally	lamps	4	390
Tico Computer	Rob	carton of forms	20	35

### THE LIST VIEW

The Form View allows you to see one record at a time and is the easiest way to manually enter data. At other times you may

want to see as many of the records at once as the screen will hold. With the List View, you can do this. For example, if you wanted to scan your database to ensure that customer names were spelled correctly, the List View would be more efficient than the Form View, since you could see several records at once. (At other times you can use Reflex's filtering capabilities to show only records meeting a certain criteria.)



*When you want to see as many records at once as the screen will hold, use the List View.*

To change from the Form View to the List View, press / V L (Views, List), then press Enter to select Replace—this substitutes the List View for the Form View, rather than splitting the screen into both List and Form views.

In the List View your database is displayed in columnar form, with each record on a separate line. The top of each column contains the field name for that column. If the database has more fields in each record than can be shown onscreen, or more than just a few records, the List View acts as a window on the database that can be scrolled left or right and up or down with the arrow keys. You can also go directly to the first record by pressing the HOME key or SHIFT-F7 and directly to the last record by pressing the END key or SHIFT-F8. The list of records shown above is very similar to the List View.

The List View can be easily modified. To change the width of any column, place the cursor in that column, press / E S (Edit, Set Column Width), alter the width using the right and left arrow keys, and press Enter when the width is set as you like.

The order in which the fields are displayed can also be temporarily altered to make related information easier to see. For example, move the cursor to the Agent column, press the F4 (Column) key to highlight the entire column, and then press the DEL key. The highlighted column will disappear. Now move the cursor to the empty column at the end of the record, press the up arrow key to select field (the column heading), press F10, and choose Agent from the list of valid fields presented to you. The Agent column will appear in the new position. Use this technique to arrange the columns as you like.

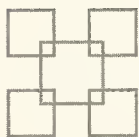
### THE GRAPH VIEW

The List View is convenient, but sometimes a picture would be even more convenient. Graphs are an excellent method for compressing all those figures into a form in which the important



facts virtually leap off the screen at you. Reflex makes it very easy to graph your data and even gives you a choice of line, scatter, bar, and pie charts. You can split the screen to have the Graph View displayed simultaneously with the Form or List Views, but let's keep it simple for now. To change to a Graph View, press / **V G** (Views, Graph), and then **Enter** to replace the List View with a Graph View.

At the bottom of your Graph View, a box labeled "X-axis field" is highlighted. Press **F10** and you'll get a display of the fields that can be placed along the X (horizontal) axis. Select Agent. Now any arrow key will automatically move the highlighting to the unlabelled box in the lower left part of the Graph View. Here you choose what will be graphed along the Y (vertical) axis.



*Like a graph, a crosstab is  
a useful way to view data that  
spans several records.*

Again, use the **F10** key to display the valid choices and choose Total Cost. Reflex automatically draws a line graph unless you select another type of graph. Look at the menu at the top of your screen and you will see a new item called Type. To have your data shown as a bar graph instead of a line graph, press / **T B** (Type, Bar). Reflex will now redraw the screen as a bar graph.

This is a simple graph; it's possible to create more sophisticated ones and to summarize information in a graph. That will be a topic in a future article.

#### THE XTAB VIEW

Like a graph, a crosstab (which Reflex calls Xtab) is a useful way to view data that spans several records in order to to summarize information. We'll use the Xtab View to compare Agents and their sales of various products. Call up the Xtab View with / **V X** (Views, Xtab). The crosstab screen appears.

Since a crosstab summarizes data, you must first choose how the data will be summarized. Press **F10** and select @SUM, rather than Average or one of the other options. Next, press the right arrow key to get to the field box, where you'll select the field to summarize. Press **F10** to display the fields. Choose Total Cost. Now you've got a little Crosstab View that tells you \$33,329.80 worth of merchandise has been sold. That's interesting, but it doesn't give you very much detail about who has sold what.

To get a more sophisticated breakdown of the data, move the cursor to the column label, which now says ALL, and press

/ **C F** (Crosstab, For Each). Then press **F10** and choose Product, move the cursor to the Proceed box, and press **Enter**. Now you see how many dollars' worth of each product was sold, but not by whom. Move your cursor to the ALL in the first column. Enter / **C F**, press **F10**, and select Agent. Your crosstab has broken down sales by product and by agent, with totals at the bottom.

You can print the crosstab by pressing / **P P** (Print/File, Print). The same command will also print a List or Form View. Crosstabs are a very powerful method of data analysis, but Reflex makes them simple to do.

#### SAVING A DATABASE AND QUITTING

So far, you've seen four of the five views Reflex has to offer. The last view is the Report View, which we will save for next month.

Before we save our file and quit for this month, we should make two changes in preparation for next month's work. We will sort the database and alter how two of the numeric fields are displayed. To sort the database enter / **R F** (Records, Field & Sort). Move the cursor to the "Agent" line in the "Sort #" column. Enter **1** on the Agent line and **2** on the Product line. This specifies the order that we want the database sorted. Now move the cursor to the Cost Each line in the Format column. Type **Fixed** in this position and on the Total Cost line. Press **CRTL-ENTER** to exit the Field & Sort screen. Enter / **R P** (Records, Perform Sort) and the database will be sorted on the fields that we chose.

For right now, though, you need to save the database you've been using. One characteristic of Reflex, as mentioned earlier, is that it is entirely RAM based. This means that everything you have done exists only in RAM, not on disk. Always be very certain that you have saved any data or alterations you've made in a Reflex database. If you simply tell Reflex to exit (without saving your data) it will gladly do so. To save your data, press / **P S** (Print/File, Save). Reflex will ask you to enter the name that you want the file saved under. Enter **VERYBEST** (the name of our mythical company) and press **Enter** twice. The first time you press Enter, you are telling Reflex to accept the filename you have entered. The second time tells Reflex to execute the 'Save File' command. Now you can enter / **V Q** (Views, Quit) and answer "Y" to exit to the DOS prompt. ■

*Daniel L. Shuster teaches mathematics and computer science at the College of Eastern Utah.*

#### QUICK REFERENCE SUMMARY

**Product:** Reflex: The Analyst  
**Manufacturer:** Borland International  
 4585 Scotts Valley Drive  
 Scotts Valley, CA 95066  
**Phone:** (800) 255-8008  
**Sugg. List Price:** \$149.95

### ADJUSTING CP/M VIDEO BOARDS

BY MARSHALL L. MOSELEY

**O**ver time, the image displayed on your CP/M Kaypro's CRT may have changed, drifting off the screen or out of alignment and causing fuzziness or elongated characters.

This month I'll tell you how to make your CRT screen picture perfect, using only a phillips head screwdriver and a plastic rod.

This procedure is simple, but I must issue two strong warnings to those interested in trying it. First, it involves working near components that hold high-voltage electricity, and if you contact the wrong component you could electrocute yourself. Be very careful, and touch only the designated components.

Second, Kaypro Corporation does not recommend that computer users attempt this and will not support you if you run into trouble. In other words, if you screw it up and fry the CRT, you're on your own.

#### THE CP/M VIDEO BOARDS

With those words of cheer, let's move on. CP/M Kaypros use nine-inch monochrome screens. The displayed text image consists of 25 lines that are 80 columns wide, making 2000 individual characters. All lines and columns should be spaced evenly from each other, and all characters should be the same size and in clear focus.

The video board is located directly behind the CRT beneath the mainboard and is mounted on the bottom of the chassis.

#### WHAT YOU CAN ADJUST

There are seven adjustments you can make to your CRT: focus, brightness, horizontal hold, vertical hold, horizontal width, vertical size, and vertical linearity.

Focus refers to the crispness of the entire image on screen—how clear the characters are and how sharp the center of the image is compared to the edges.

Brightness refers to how intensely the image on the CRT glows. As you know, there is an external brightness adjustment, as well as an internal one. The internal adjustment controls the range of

the external one—how bright the screen is at the brightest setting, and how dim at the dimmest.

The horizontal and vertical hold adjustments are the same as the ones on your television. Adjusting the horizontal hold scrolls the entire image from left to right, or vice versa. Vertical hold scrolls the picture up and down.

Horizontal width is the horizontal measure of the screen image, which should be seven inches. Vertical size refers to the vertical measure, or height of the image. This is normally 4.8 inches.

Vertical linearity refers to the height of all characters, relative to each other. When vertical linearity is out of adjustment, for example, the characters at the top and bottom of the screen may appear larger than those in the center.

#### GETTING TO THE VIDEO BOARD

First, use Wordstar in non-document mode to create an ASCII text file that will take up the entire screen. Exit WordStar and TYPE the file. Then, using a phillips head screwdriver, remove the screws on the top and sides of the computer and remove the cover.

Look at the screen and decide what settings need adjustment. Then turn the computer 90 degrees and look under the mainboard at the CRT video board.

---

*Avoid the throwback coil, unless you want a potent lesson on the dangers of electricity.*

---

The component to avoid is the throwback coil—a cylinder about 1.5 inches

in diameter and 2 inches high. It's one of the largest components on the board. Do not touch it, or the wires leading to it, unless you want a potent lesson on the dangers of electricity. Also stay away from the ceramic and copper yoke that surrounds the base of the picture tube.

#### MAKING THE ADJUSTMENTS

You will see small plastic wheels or dials perpendicular to the video circuit board. These are potentiometers ("pots"), and they allow you to adjust the characteristics of your display.

Kaypro has used CRTs made by Elston Electronics, Toshiba Corporation, Dotronix Corporation, and Micrex Incorporated in its CP/M computers. Figure out which one you have by comparing the placement of the pots on the circuit board to the diagrams on the next page.

To adjust pots, you must use a fairly long plastic rod with a tapered end, much like a flat-blade screwdriver. For your own safety, you must use plastic. Under no circumstances should you use metal of any kind. These rods are available from Radio Shack, part number 64-2223.

Again using the diagrams on the next page, locate the pots for your CRT and determine which ones you need to adjust. Notice that each pot has a small plastic wheel with a ridge on it; make the adjustment by placing the edge of the tool under the ridge and pushing up, or on top of the ridge and pushing down. When doing this you should work with another person. Your partner can look at the display and tell you when the adjustment is correct, allowing you to devote your full attention to moving the pot. (Poking around back there blind only increases any risk.)

The Micrex CRTs pots are not wheels, but plastic screws that are adjusted from above. Bend the end of the adjustment tool to a 90-degree angle and use it the way you would a socket wrench.

FOR DIAGRAMS SEE PAGE 61



## ELSTON VIDEO BOARD

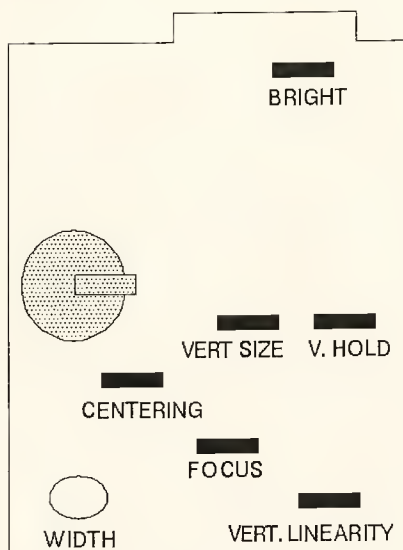


ILLUSTRATION 1: Elston video board diagram.

## TOSHIBA VIDEO BOARD

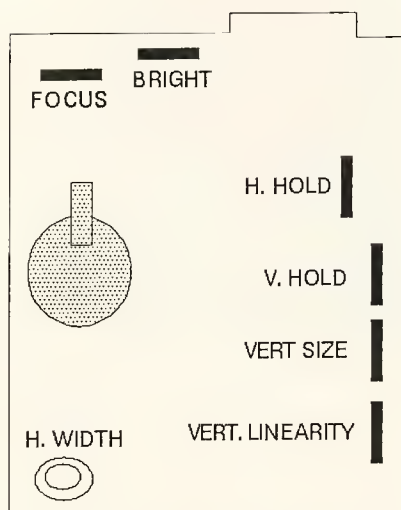


ILLUSTRATION 2: Toshiba video board diagram.

## DOTRONIX VIDEO BOARD

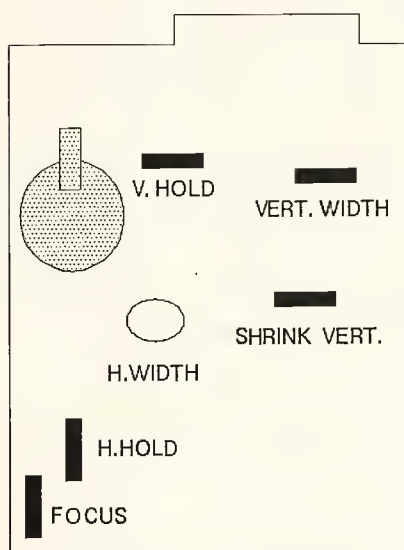


ILLUSTRATION 3: Dotronix video board diagram.

## MICREX VIDEO BOARD

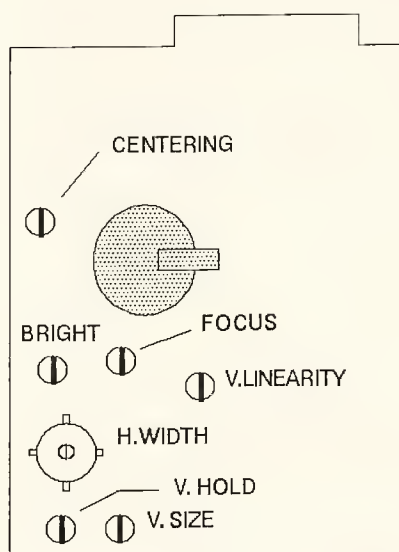


ILLUSTRATION 4: Micrex video board diagram.

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**M**y choice this month is Boeing Graph from The Boeing Company. This package is for making two- and three-dimensional graphs. It doesn't do word processing, act as a database, or do windows. It only makes graphs. But it makes them with more flexibility and power than anything else I have ever seen or heard about.

Boeing Graph requires an IBM PC or compatible with at least 512K of memory, MS-DOS 2.0 or newer, an EGA video card, and a hard disk. If you want to print out copies of your graphs, you will need a parallel printer with graphics capabilities. The product has no copy protection and may be reinstalled and backed up as often as you like.

#### **FEATURES**

Boeing Graph can produce 12 different two-dimensional graphs, 33 three-dimensional graphs, and 27 stacked 3D graphs from your data. (In a stacked graph two graphs are shown at the same time. Usually the second graph is an enlargement of a portion of the main graph.) Any three-dimensional graph can be viewed from any of 16 preset viewing angles. If none of the predefined viewing angles is acceptable, you can rotate the graph about any of its axes and position it on the screen or set the distance perspective to your preferences.

---

*Labels and titles  
for your graph may be  
selected from nine  
different fonts.*

---

Labels and titles for the graph may be selected from nine different fonts, if you don't care for the defaults. After you



RICHARD STARKMAN

#### **BOEING GRAPH 4.0**

choose a font, you select type size, spacing, width, slant, and boldfacing. Labels and titles in each area of the graph are set separately, so you can use different fonts or sizes on the same graph for added emphasis.

Once the representation of data, viewing angle, and labels are set to your satisfaction, you can customize the colors used in your graph. By pressing a couple of keys, you can cycle through a different set of colors each time you press the left- or right-arrow keys. If this option doesn't produce colors to your liking, you can set individual red, green, and blue levels to produce "custom" colors for any component of the graph.

#### **PERFORMANCE**

Installation is a totally painless and automated operation. Simply run the COPY3D program. It asks what drive and directory you want the main program in, has you select your printer, and asks if your function keys are laid out vertically or horizontally. (If your function keys are horizontal, you push different keys for commands than if they're vertical.) The

**BY TOM ENRIGHT**

installation program takes care of creating the subdirectories and copies all the files to your hard disk.

Boeing Graph is not a small program. At 349K, the main program takes just over 30 seconds to load on a 6MHz 286i. Add to that the time required to load a default

---

*Boeing Graph is an  
extremely powerful,  
flexible, and visually  
impressive program.*

---

data file and display its graph on the screen and you're a few seconds shy of a full minute before you can enter the first command.



But Boeing Graph's power, flexibility, and visual impressiveness more than compensate for the initial loading delay. After loading, command entry is via function keys, with currently available commands graphically represented on the screen. What you see are five function keys (vertical or horizontal, depending on which you select during installation) labeled with the command they actuate. If the menu covers up your graph, it can be toggled on and off with the space bar.

Access to all this graphing power is accomplished through a spreadsheet-like interface called the data manager. Here is where you prepare your data for graphing. Data can be entered manually or imported from files created by other applications. File formats Boeing Graph recognizes are DIF, SYLK, WKS, WK2, ASC, and standard ASCII data.

DIF (Data Interchange Format) is a file format available in many spreadsheets to allow interchange of data with other programs. SYLK (SYmbolic LinK) is a format available in Microsoft's MultiPlan that serves the same function as the DIF format. WKS and WK1 are Lotus 1-2-3 native file formats. ASC files are created with Boeing Calc. ASCII files are standard comma-delineated ASCII files common to many programs, including dBASE II and III.

Once the data is read into the data manager, you can perform further operations on it prior to graphing. You designate which cells contain the title, subtitle, row and column headers, and row and column titles, and which range of cells contains data for the graph. There are also mathematical operators to help you fine-tune the data. Although using the data manager is similar to using a spreadsheet, the range of operators is too limited and calculations take place too slowly for it to be a threat to Lotus 1-2-3. (Boeing has its own 3-D spreadsheet for that.)

When the data is prepared to your satisfaction, the print command lets you select how the graph will be printed. You can print in high or low resolution and change the size or position of the graph on the page. A major limitation of Boeing

Graph 2.0 is that it only supports dot-matrix and laser printers—no plotters. A program of this power and sophistication should support plotters or film recorders. (The upcoming version, 4.0, remedies this problem—more on this below.)

#### DOCUMENTATION

The manual for Boeing Graph is as classy as the software. It guides the user through several levels of tutorials leading to mastery of the program, with beginning information and tutorials in the front and advanced information toward the rear. Full-color photographs of the screen are liberally used to illustrate finished graphs.



The approach and style of the tutorials is excellent. The tutorials teach one area of the program at a time and cover that area thoroughly. Only in one section did I find the manual and the software in disagreement. That was in the section on the data manager. The manual listed an operation as being on the main menu when it was on a submenu under the heading of "other."

The only other criticism I have is that the toll-free technical support phone number is not listed in the manual. It's listed on other papers that come with the software, but unfortunately these loose papers are easy to misplace, which I promptly did.

#### CONCLUSIONS

Boeing Graph is an excellent example of

what software should be. It was originally developed by Boeing Corporation to answer its in-house needs for graphs and charts for aerospace and aircraft manufacturing projects. Boeing ended up with what I think is the best graphing program on the market—bar none.

The program is intended for use by people who can visualize what they are after. Nothing that can produce the kind of output shown in the example graph is for the unimaginative.

Though Boeing Graph is an excellent program, Boeing Computer Services is not resting on its laurels. By the time this magazine is in your hands, or shortly thereafter, Boeing Graph 4.0 should be ready. In the new version of the program the annoying manual problem has been fixed. Expanded video board support for Hercules Monochrome, CGA, two extended EGA modes and VGA are included, along with support for more printers. Also, drivers for Houston Instruments and Hewlett Packard plotters will be an extra-cost option.

If you already own Boeing Graph, the upgrade policy is liberal. If you have had the program more than 90 days, the upgrade to version 4.0 will cost you \$95, but if you have had it for less than 90 days, the upgrade is free. (This policy will take effect, of course, after the new version is officially available.)

#### SCORECARD

<b>Features:</b>	Excellent
<b>Performance:</b>	Excellent
<b>Documentation:</b>	Very Good
<b>Ease of Use:</b>	Very Good

#### QUICK REFERENCE SUMMARY

**Product:** Boeing Graph 2.0  
**Manufacturer:** Boeing Computer Services  
 P.O. Box 24346, Mail Stop 7W-31  
 Seattle, WA 98124  
**Phone:** (800)368-4555  
**Sugg. List Price:** \$350



When people wait as long for a product as CP/M users have waited for WordStar 4.0, they become manic-depressive, alternating between gloomy predictions that it will never arrive and gushing recitals of mythical features. Now that WordStar 4.0, CP/M Edition, has actually arrived, it's clear that while the program is not as wonderful as we assumed it would be in our manic phase (what program could be?), it's also not simply a token upgrade dashed off to squeeze a few more dollars out of a fading CP/M market.

In fact, the program is exactly what we would have expected had it been any other program but WordStar and any other market but CP/M. WordStar 4.0 is a major new release of a classic program, one that adds a number of substantial new features and fixes many (though not all) long-standing complaints. What most people want to know, of course, is whether WordStar 4.0 is really better than their faithful WordStar 3.3 (or even 3.0). In short, is it worth \$89 to upgrade?

It's not an easy question to answer, for one special reason. More people know more about hotrodding the old WordStar than about any other program ever written. It's practically a national hobby. By contrast, we're barely acquainted with WordStar 4.0, and it'll be a year before we really begin to learn its secrets. So what follows is only a first look at the new kid. This month, I'll look at editing and related features; next month I'll cover formatting and printing features.

#### MAJOR NEW FEATURES

All in all, MicroPro did pretty well by the CP/M users' wish list. In fact, they managed to cram almost all the features of the MS-DOS WordStar 4.0 into the CP/M version, in spite of CP/M's limited memory. Among its major new features:

**Undelete.** Now if you mistakenly delete a word, line, or block, you can simply undelete it with ^U.

**Mocros.** WordStar now has a built-in macro facility, called Shorthand that you can use to redefine keys.

**Math.** You can now pop up a simple

## WORDSTAR 4.0 FOR CP/M: PART 1

BY TED SILVEIRA

four-function calculator to do some arithmetic as well as add and subtract columns of numbers directly in your text.

**Proportional Spacing.** WordStar now officially supports proportional spacing for certain printers.

**Expanded Printer Library.** You now have a greatly expanded library of printers to choose from, including some laser printers.

**Drive/User Areas.** WordStar now understands about CP/M's user areas, so hard disk users no longer have to go through great contortions to edit files on different parts of their disks.

**Documentation.** It could hardly be worse than the original. As it turns out, it's much, much better.

There are also several features many people were hoping for that didn't get added. There's no split screen or multiple window option (not even in the MS-DOS version yet). There's no built-in thesaurus, and the Word Finder thesaurus that worked on earlier WordStars won't work on WordStar 4.0. In addition, there's at least one major feature that has been dropped—concurrent printing and editing. Presumably because of memory limits, you can no longer print one file and edit another at the same time. (This feature took some patching to make it work, but I used it all the time and miss it a lot.)

Let's take a look at some of the details.

#### EDITING

Fortunately, WordStar's well-known control key combinations remain intact, so you won't need to relearn those commands that are now ingrained in your fingertips. MicroPro even restored some functions that had been altered in NewWord, the WordStar clone that became the basis for a large chunk of WordStar 4.0 (MicroPro bought out NewWord some time back). NewWord, for example, used

^QP for go-to-page and eliminated the ^K/^Q block marker commands (^K1/^Q1, etc.). WordStar 4.0 restores ^QP to its original function (return to previous cursor position) and brings back the marker commands.

---

*^KS now returns you to your original position in a file instead of leaving you at the beginning.*

---

MicroPro has also made some improvements. ^KS now brings you back to your original position in the file instead of leaving you at the beginning. ^QI will take you to a specified page. ^QG and ^QH will take you forward or backward to the first occurrence of a specified character (^QG?, for example, will take you forward to the next ? character). And ^QT will delete up to a specified character.

These last three commands—^QG, ^QH, and ^QT—can be quite useful, especially when combined with a string of other commands in a macro. However, in one of the brochures sent out to prospective customers, MicroPro claimed to have among its "over 120 enhancements" such things as move-to-previous-sentence, move-to-previous-paragraph, delete-rest-of-sentence, and so forth, but there's no trace of such things among WordStar's regular commands. It is possible to create such commands using ^QG, ^QH, and ^QT in macros, but if that's what MicroPro had in mind, I find their word-



ing rather misleading.

There are further improvements. The column mode is improved, and when you move a column, you can now have it replace another column of text or push the other text to one side (overwrite or insert mode, in other words). The search command can now search for all print control characters, including the notorious ^S.

Not everything is perfect, though—I have at least four major gripes. First, as I mentioned above, WordStar 4.0 no longer allows you to print one file while editing another. Like many people who use their computers a lot, I hate losing all use of my machine any time I decide to print something, and I resent being forced to buy a hardware print buffer (the only other option) to substitute for a feature that worked perfectly well in the older versions of WordStar. I'd cheerfully give up both the new math functions and the macro functions to get concurrent printing and editing back.

*I'd give up both the math and the macro functions to get concurrent editing and printing back.*

Second, in WordStar 4.0, when you delete a marked block, especially a large marked block, there's a noticeable delay before the block is actually removed. I presume this delay is caused by the undelete function (if undelete is going to work, then every block you delete has to be shuffled into the undelete buffer instead of simply removed). In any case, it's annoying, especially since one of WordStar's strong points has always been its responsiveness during editing.

Third, when you feed a string of com-

mands to the old WordStar (a complicated macro, for example), it swallows all the commands at once and simply stops updating the screen until it's done. For example, I use a "garbage dump" macro (^QC^KV^QV) that jumps to the end of my file, moves whatever block I've marked to the end of the file, and then returns me to the spot the block came from. The old WordStar freezes the screen as soon as the macro starts and only rewrites it at the very end, after the block has been moved.

WordStar 4.0, however, insists on rewriting the screen to show what's happened after every step. So with the macro above, it jumps to the end of my file and rewrites the screen to show me what's there. Then it moves the block to the end of the file and rewrites the screen again, to show the block in place. Finally, it jumps back to my original position and rewrites the screen for a third time. All this screen rewriting takes a lot of time and slows down a once lightning

fast macro considerably. It is not an improvement.

Fourth, when you set the help level to 0 (where I prefer it), you can no longer get a file directory display using ^KF. I fail to see the logic. The fact that I don't need help messages shouldn't imply that I don't ever want to look at a list of files.

#### SCREEN DISPLAY

WordStar 4.0 offers several improvements in its screen display, too. Some dot commands—such as the LM and RM margin commands and the OJ justification command—now take immediate effect on screen, just as if you'd used the control-key equivalents (^OL, ^OR, ^OJ). More important for many people, WordStar 4.0 now displays onscreen boldface and underlining for computers that can support it (that includes the '84 model Kaypros, which have graphics and reverse video, but not the older '83 models). The standard video setup for the Kaypro 2X,

CONTINUED ON PAGE 66

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4, and 10 shows normal text in half-intensity, boldface text in full-intensity (bright), and underlined text actually underlined. If you use ^OD to turn off the display of print control characters, you get a pretty good picture of what your text will look like when you print it. (All bets are off if you're using some special print feature like italics, though.)

---

## *WordStar 4.0 displays onscreen boldface and underlining for computers that support it.*

---

This onscreen display of boldface and underlining makes for a pretty screen and definitely helps you identify any unpaired ^B or ^S, but it also has an unpleasant side effect. As soon as you insert your first ^B or ^S, WordStar insists on boldfacing or underlining every character from there to the end of the screen. It won't respond to any further commands until it's finished boldfacing or underlining the screen, and then, when you finally insert the second ^B or ^S, it rewrites the screen again to remove all the unnecessary boldface or underlining. That's both distracting and time-consuming. It's not a major problem for me, because I don't use boldface or underlining that often, but there must have been a better way to implement this feature.

### **MACROS**

As I mentioned at the beginning, one of WordStar 4.0's new features is a built-in macro facility called Shorthand. You can define up to 36 macros that can be executed by pressing the Escape key (Esc)

plus a single letter or number. Each macro can contain simple text (like your name and address), commands (like the "garbage can" macro described earlier), or a combination of the two.

You can also nest and chain macros (that is, have one macro call another), which can be a very useful feature. For example, if you have one macro that you manually set with today's date or the current filename, you can then have a standard set of other macros that call the first one and perform various operations with the date or the filename. As long as you set the first macro correctly, the others will always be correct. (You could use this trick to create a macro that will save your current file and then run a word count on it.)

---

## *The manual says maximum size for one macro is 80 characters, but I could enter no more than 64.*

---

WordStar's default setting gives you 512 characters of storage space for macros, which you can increase if you want. The manual says that the maximum size for one macro is 80 characters, but I was unable to enter any more than 64 (as few as 32, if all were control characters). Oddly enough, the entry seemed to be limited by the screen size rather than the buffer. That is, WordStar would stop accepting characters for a macro when the cursor reached the right edge of the screen, rather than after a set number of characters. Peculiar.


In all, WordStar's new Shorthand macros are useful tools, but they won't replace programs like SmartKey and

XtraKey. For one thing, WordStar doesn't have any provision for a pause or for user input in a macro—both useful features that are available in the external programs. For another, WordStar requires two keystrokes for every macro (Esc plus another key) and can't distinguish between the keypad and keyboard keys. Programs like XtraKey, which can distinguish between the two, allow you to create single-keystroke macros by redefining the 13 keypad keys.

### **MATH FUNCTIONS**

WordStar 4.0 now offers some simple math functions, too. If you press ^QM, WordStar will clear a small window at the top of the screen where you can type in simple numeric equations. The calculator is pretty basic, but it can add, subtract, multiply, and divide, and it can handle parentheses and scientific notation. You can also do simple in-text math using ^KM to total a column of figures in a marked block (addition and subtraction only, though). In addition, WordStar's Shorthand function comes with special macros to insert the results of the last ^QM or ^KM.

The new math functions won't replace my pocket calculator, but people who regularly need to insert calculations in their text will probably find it quite useful.

Next month, all about WordStar 4.0's formatting and printing features. 

*Ted Silveira is a remote editor for PROFILES.*

### **QUICK REFERENCE SUMMARY**

**Product:** WordStar 4.0 CP/M Edition  
**Manufacturer:** MicroPro International  
 33 San Pablo Avenue  
 San Rafael, California 94903  
**Phone:** (800)227-5609 Ext. 763  
**Upgrade Price:** \$89.00



It used to be that every month brought a flood of new public domain CP/M software, both new programs and upgrades, so many that you could spend a whole weekend on the phone and still not download the whole month's worth. But now the flood has slowed to a bare trickle—even on CompuServe, you'll find only half a dozen new uploads per month instead of half a dozen per day. It's a sad situation, because the public domain has always been one of CP/M's major strengths and because, I suppose, the lack of new programs indicates that CP/M public domain programmers have moved on to other things (or at least to other operating systems) without anyone coming along to replace them.

Which is not to say that there's absolutely nothing worth looking at. This month, in fact, I've got a remarkably slick program to tell you about.

## VDE

VDE (current version 2.61), by Eric Meyer, is not a new program but rather one that's been developed over several years to its present polished state. VDE is a text editor—a mini-word processor, really—that manages to cram most of WordStar into a program that takes up only 12K. Though it lacks WordStar's dot commands and other sophisticated printing and formatting controls, VDE does have all of WordStar's important editing commands, including word wrap and paragraph reform.

VDE uses the standard WordStar cursor controls, including the famous cursor diamond and the "quick" movement commands like ^QR, ^QC, ^QS, and so on. (In fact, the only movement commands missing are the scroll commands, ^W and ^Z.) It can read a file from the disk and insert it in your current file or write a marked block to disk under a new filename, and it understands all about CP/M's drive/user areas.

VDE can search or search-and-replace text, it can delete by character, word, or line, and it has almost all WordStar's block commands, including block delete and copy, jump to block marker, and

## A TRICKLE, NOT A FLOOD

BY TED SILVEIRA

place markers. Oddly enough, the one block command that's missing is the block move command. You can execute a block move by first copying a block and then deleting the original (four keystrokes instead of two), but it seems an odd command to omit. The program also includes WordStar ^O commands for left and right margins, centering, double or single spacing, margin release, tab settings, ruler line display, and so forth.

VDE adds several new features, too. It can create and edit files in WordStar mode (which produces typical WordStar document files), ASCII mode (which creates clean ASCII files but still has all word processing features like word wrap), and nondocument mode (which works just like WordStar's nondocument mode). It has a useful undelete function (characters, words, lines, blocks) that many people will like. And it has a built-in macro function that allows you to define up to 10 macros (beginning to sound a little like WordStar 4.0, isn't it?). The macro function not only allows chaining from one macro to another but also includes a few rudimentary programming features. A macro can, for example, jump directly to a particular part of the macro command if the character at the current cursor position matches (or does not match) a specified character.

VDE is also lightning fast, mainly because it keeps both itself and your entire text file in memory at once, so it never has to read or write to the disk while you're editing. It can jump from the beginning to the end of a 40K file as fast as your Kaypro can rewrite the screen and find any word or phrase in the file in one second (or less). And because of its small size, VDE also loads in a flash. All this speed gives you a remarkable freedom when you edit—because it no longer seems tedious to load a file and edit it, or

to jump to a distant part of a file to check what you've written, you'll find that you're more willing to make changes that you might have put off or even avoided before and also more willing to experiment with different arrangements of your paragraphs. (That's the way it affects me, anyway.)

You lose two things when you use VDE. First, as I mentioned, VDE doesn't have the sophisticated print formatting that WordStar does. It can print a file (or a marked block of a file, which is nice), and it does allow you to define and insert some print control characters, but if you need fancy printing or merge printing, you'll need to use WordStar for at least that much.

Second, because VDE holds your entire file in memory, rather than paging it to disk as WordStar does, there's a limit to the size of the files you can work on. But because VDE itself is so small, and because it compresses the file somewhat while it's working on it, you can actually edit a file that's larger than the amount of free memory you have (strange but true). On a Kaypro with 52K free memory, I had 40K free after loading VDE itself, yet I was able to create and save a 50K file. Few people ever need to work with single files as long as 40 or 50K (even novels should be broken into chapters for easier editing), so VDE's file size limit simply won't affect most people.

While everyone can appreciate VDE for its speed, floppy disk users will adore it. Since it takes only 12K of disk space, it fits easily onto 191K single-sided disks with lots of room left over for other programs.

In short, VDE is an excellent program for many different kinds of writing—memos, stories, articles, letters, programs, messages to be uploaded to a bulletin board, and so on. ■

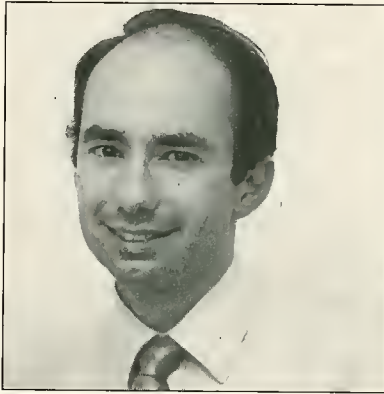
### THE KUG DEPARTMENT AND NEW NETWORKING PRODUCTS

BY MARSHALL L. MOSELEY

**T**his month we'll introduce readers to the Kaypro Users Group Department—one that new and long-time users alike should be aware of—and provide an update on Kaypro's networking products.

#### THE KUG DEPARTMENT

Kaypro Corporation supports Kaypro computer buyers in many ways, such as providing a software technical support telephone line where Kaypro users get help with the software bundled with their computers (619/481-3920) and publishing *PROFILES* Magazine.



Fred Zuill, Kaypro User Groups Manager

One of the most effective user-support services Kaypro offers is the Kaypro Users Group (KUG) department.

KUGs, found throughout the nation and the world, consist of Kaypro users who meet weekly or monthly to trade information and public domain software. The KUG department exists for only one reason: to provide support for these groups and thereby for Kaypro owners.

This support takes many forms:

**Speakers.** The KUG manager travels throughout the United States, meeting with user groups and speaking at meetings. He passes on the most recent information from Kaypro and shares current public domain software.

**Discounts.** Merchandise from the Kaypro General Store, such as caps, shirts and pens, is available to KUGs at a discount through the KUG department. Also, there is a program that allows each

user group to buy one Kaypro MS-DOS computer at a reduced price.

**Newsletters.** The KUG department distributes ONKUG, the Official Newsletter of Kaypro Users Groups. ONKUG, published bimonthly on diskette, is distributed to every user group in the country. The ONKUG disk contains public domain software, tips on Kaypro computer use, news about Kaypro Corporation, and articles from KUGs around the country.

**Kaypro Online.** The KUG department operates a Remote Bulletin Board System (RBBS) called Kaypro Online. An RBBS is a computer linked to a modem and dedicated to telecommunications. Kaypro users can call Kaypro Online using a telecommunications program and a modem and transfer public domain software from Kaypro's computer to theirs. Also, Kaypro Online has an active electronic mail system where KUG members can ask questions concerning their computers and receive answers.

The bulletin board consists of a Kaypro 386 with a 130-megabyte hard disk, five internal modems, and "The Chairman" bulletin board software. The phone number is (619) 259-4437; set your communications parameters to 300, 1200, or 2400 baud, full duplex, eight data bits, one stop bit, and no parity. Once you log on to Kaypro Online, leave an application for membership with the sysop (system operator).

Fred Zuill is the KUG manager and the sysop for Kaypro Online. Fred travels around the country visiting the different KUGs and coordinating communications among them. He also attends computer industry trade shows for Kaypro's promotions department. Gwenn Carver, the KUG assistant, splits her time between KUG business and the Kaypro General store. She helps by screening articles for ONKUG and performing administrative tasks while Fred is on the road.

If you want to learn more about your Kaypro computer, or feel that your knowledge could benefit others, contact your local users group by calling 1-800-4-KAYPRO and giving the operator your zip code. He or she will tell you how to con-

tact your local KUG.

#### NEW NETWORKING PRODUCTS

Kaypro Corporation has made two changes in its approach to the Local Area Network (LAN) market. First, it has reduced prices 20 to 30 percent on Novell Netware 286, 86, and 86Q, as well as Arcnet cards and other network-specific hardware. Second, it has introduced two new products for the LAN market: a diskless workstation and an enhanced model of the Kaypro 386.

**The Diskless Workstation.** A diskless workstation is a computer with no disk drives that operates as a terminal connected to a LAN. The Kaypro Diskless Workstation retails for \$999 and has a dual-speed 8088-compatible V20 CPU running at 4.77 or 8.0 Mhz. A monochrome monitor with a Hercules-compatible video adapter, 256 kilobytes of RAM, a parallel port, and a network card are also standard equipment. The Kaypro Diskless Workstation has five expansion slots and room for four half-height drives.



**A Lightning Fast File Server.** The Kaypro 386 N-150 is the newest addition to Kaypro's line of 80386-based microcomputers. Retailing for \$8,795, the 386 N-150 is designed to be a network file server. The 150-megabyte hard disk that comes standard with the machine uses Enhanced Small Device Interface (ESDI) technology, which is significantly faster than the older ST-506 interface.



## NEW PRODUCTS

EDITED BY MARSHALL L. MOSELEY

The following new product listings are not reviews and should not be considered endorsements. To be considered for publication in this column, press releases should be sent to Marshall Moseley, "New Products" editor, c/o PROFILES Magazine, 533 Stevens Ave., Solana Beach, CA 92075. Releases must state prices and the operating systems the products support. Include photos if available.

### JOB SEARCH SOFTWARE

Career Navigator is software that guides the job seeker through a successful job search process. The program is highly interactive, providing motivation and practical feedback.



Career Navigator's features include training in job search processes and skills, researching and strategic planning, interviewing, and resume and letter writing. The program maintains a database of up to 100 names for follow-ups and mailings.

\$95. Kaypro MS-DOS computers and other PC-compatibles. Drake Beom Morin, Inc., 100 Park Avenue, New York, NY 10017; (212) 692-7700.

### A PROGRAMMER'S EDITOR

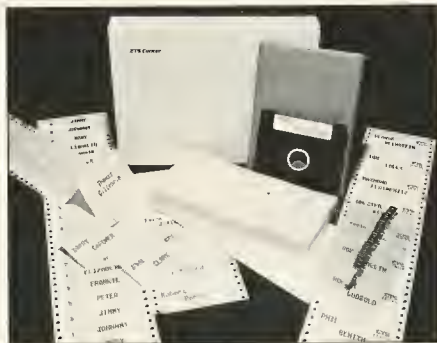
Out of the Blue is a small, compact, full-function programming editor. The package consists of two programs: one for smaller, everyday programming tasks, and one for larger projects. The latter uses all of the available memory.

The editor has many standard features, such as extensive searching and substitution capabilities, horizontal and vertical scrolling, and block editing. Out of the Blue also has a built-in calculator that performs standard arithmetic operations and converts to binary, octal, hexadecimal, and two's complement integers. The program includes a pop-up ASCII table.

\$69.95. Kaypro MS-DOS computers and other PC-compatibles. Porogon Software Corporation, 600 Rugh Street, Greensburg, PA, 15601; (412) 838-1166.

### TRACKING NAMES

The Name Processor is a filing program specifically designed to work with names. It allows you to create mailing lists, membership lists, lists of club memberships, etc. It prints professional looking name badges and place markers for meetings. The Name Processor can import and export data from most popular database and word processing programs.



\$79. Kaypro MS-DOS computers and other PC-compatibles. ETS Center, P.O. Box 651, South Turtle Trail, Willoughby, OH 44094; (216) 946-8479.

### ORGANIZE YOUR LIBRARY

Bookends PC is a database and personalized time-saver designed to track down articles, magazines, and books with minimum hassle. It stores the name of the author, journal, volume,

page numbers, date, publisher, editor, location, keywords, and abstract. Bookends PC prints bibliographies using user-designed custom formats.

\$149.95. Kaypro MS-DOS computers and other PC-compatibles. Sensible Software Inc., 335 East Big Beaver, Suite 207, Troy, MI 48063; (313) 528-1950.

### MAKING POWER SAFER

The Models SP-300 and SP-600 surge protectors provide economical surge protection for your computer and other electronic equipment.

Model SP-300 turns a standard wall outlet into three protected outlets while guarding against voltage spikes of up to 6,000 volts. It has a clamping time of less than five nanoseconds. Model SP-600 provides six protected outlets, can withstand 4,500-volt surges, and has a clamping time of less than ten nanoseconds.



Both protectors work without interfering with normal current flow. Each has an indicator lamp that lets you know when the unit is operational.

\$15.95 for the SP-300 and \$19.95 for the SP-600. Scooter Products, ohm/Electronics, Inc., 746 Vermont Street, Polotone, IL 60067; (800) 323-2727. In Illinois call (312) 359-6040.

### GENERATE NEW NAMES

Namer is a computer program that generates millions of new, never-before-

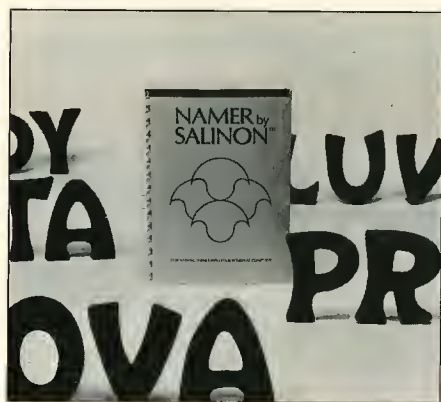
CONTINUED ON PAGE 70

## NEW PRODUCTS

CONTINUED FROM PAGE 69

seen names for products, services, companies, and more. Headliner helps create and write new promotional expressions by finding and modifying existing sayings or phrases.

The program includes eleven different name generation methods and an electronic naming thesaurus containing well over 10,000 name-parts in over 500 different categories. Namer comes with a library of 25 different databases that contain over 33,000 idioms, quotes, clichés, slogans, titles, proverbs, and other expressions. Also included is a software toolbox for key word or sound-alike searching, phrase substitution, rhyme and similarity matching, and acronym construction.



\$99. Kaypro MS-DOS computers and other PC-compatibles. The Salinon Corporation, 7430 Greenville Avenue, Dallas, TX 75231; (214) 692-9091.

### FOR THOSE WHO C

The BlackStar C Function Library is a collection of C functions that supports EGA video, allows terminate-and-stay-resident (TSR) program development, and has six serial communication functions.

There are over 300 functions in the BlackStar library, including device handlers for the screen, the keyboard, the printer, and a mouse. The library

provides the programmer with an alternative to the time-consuming task of creating his or her own libraries.

The BlackStar C Function Library is designed to simplify the programmer's task and adhere to the ANSI standard for C. BlackStar C is compatible with Microsoft C version 3.0/4.0 and Lattice C version 3.0.



\$125. All Kaypro MS-DOS computers and other PC-compatibles. Sterling Castle Software, 702 Washington Street, Suite 174, Marina Del Rey, CA 90292; (213) 306-3020.

### LOTUS ADD-ON FOR DATA ENTRY

D.A.V.E. is a new Lotus 1-2-3 add-on software product that creates customized data entry forms for entering, viewing, and editing data in Lotus 1-2-3.

D.A.V.E. allows Lotus 1-2-3 users to create forms or images by painting them on the screen and specifying editing criteria for each data field. Images can be up to ten pages long and can contain 256 fields.

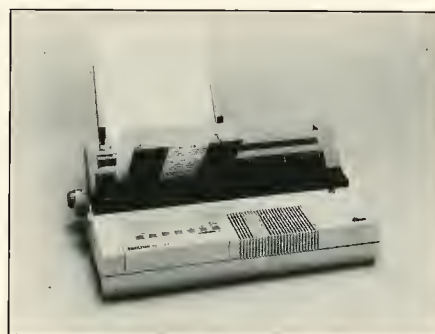
The program allows you to specify data types (numeric, integer, alphanumeric or date) and the correct column for data placement. It also provides data filters, allowing you to check input against a value, another column in the spreadsheet, or the contents of an absolute cell.

\$149.95. All Kaypro MS-DOS computers and other PC-compatibles. GOLDATA Computer Services, Inc., 2 Bryn Mawr Avenue, Bryn Mawr, PA 19010; (800) 432-3267.

### DUAL-PURPOSE PRINTER

The Brother M-1724L is a 24-pin, "letter-quality" dot-matrix printer that uses two diagonally offset rows of 12 pins to create cleaner, crisper characters and darker, denser shades. This printing technique allows for more vivid pie charts and bar graphs.

This printer has an easy-access front control panel from which users can select typestyles, fonts, and other printing options. Braugham 10, Braugham 12, Anelia PS or draft fonts are standard, as are enlarged, emphasized, and condensed styles. The M-1724L also uses underlining and italicized text.



The M-1724L features "paper parking," in which fanfold paper is temporarily pulled away from the platen, allowing single sheets to be printed. The printer is equipped with both parallel and serial ports and is compatible with the IBM PraPrinter, Epson

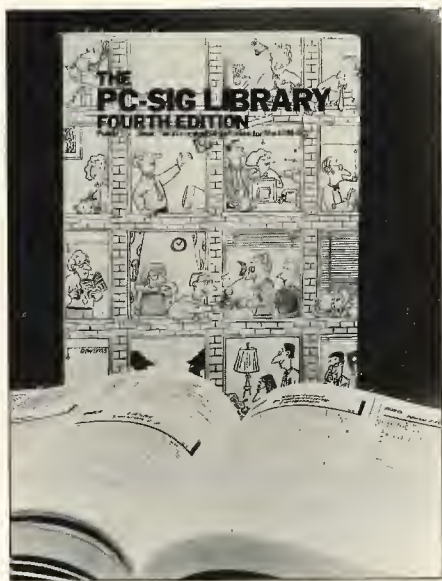


LQ1000, Brother HR series, and Diablo 630 printers.

\$899. Brother International Corporation, 8 Corporate Place, Piscataway, NJ 08854; (201) 981-0300.

#### FREE SOFTWARE DIRECTORY

A PC-SIG membership gets you the fourth edition of the PC-SIG Directory, which contains descriptions of the user supported and public domain software available from PC-SIG. After reading the directory and choosing the disks you want, you can order them at \$6 each.



Also provided with the membership is a bi-monthly magazine, a bi-monthly hot sheet, and descriptions of "members-only" discounted prices.

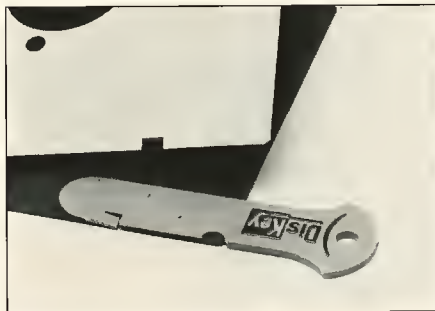
\$20. PC-SIG, 10320 D East Duane Avenue, Sunnyvale CA 94086; (408) 730-9291.

#### THE KEY TO PROTECTING DISKS

DisKey is a small plastic appliance that fits on the left side of a floppy disk and provides temporary copy protection when that disk is inserted in a disk drive.

DisKey works by covering the write-protect notch—the small section of disk that, when covered, stops the drive

from writing on the disk. DisKey keeps this notch covered all the time, preventing data loss through inadvertent writing to the disk. It is a highly visible form of copy protection.



DisKey may be inserted anytime the floppy disk is in place within a drive; you don't need to remove the disk. You need only one DisKey per computer system, and it fits most standard 5.25-inch drives.

\$1.69. CroResearch, 100 Meadow Court, Lyons, CO 80540; (303) 823-5088.

#### FIGURING FOOTBALL

NFL Forecaster is a program for predicting the winners and the point spreads of NFL football games. The program works by using only game scores; there is no need to type in pages of statistics. NFL Forecaster usually picks more winners correctly than the Las Vegas oddsmakers.

NFL Forecaster ranks teams by offensive and defensive performance (which is determined by the points scored and the points given up by a specific team), and by their win-loss-tie record.

Several printed reports are available, including point-spread forecasts and conference rankings. A powerful menu system makes the NFL Forecaster fast and easy to use.

\$69.95. All Kaypra CP/M and MS-DOS computers and compatibles. DYNA-COMP Incorporated, 1064 Gravel Road, Webster, NY 14580; (716) 671-6160. ■

## PRODUCT UPDATES

Microsoft Macro Assembler has been upgraded to version 5.0; it is now 25 to 40 percent faster than previous versions and supports the 80386 microprocessor.

Microsoft has also released **Microsoft Word 4.0**, an improved version of its top-selling word processor. New features include a toggle between text and graphics, improved speed, VGA video support, macros, and a document management and retrieval system. Microsoft Corporation, Redmond, WA □

**Mirror II** is an improved version of the Mirror telecommunications software. Its help system is easier to use and it has a new status screen display. Softklone Corporation, Tallahassee, FL □

**The Landmaster** property management program has been released in Local Area Network versions for users operating under Novell's Advanced Network 286, as well as Network OS from CBIS Inc. Systems Plus Inc., Mountain View, CA □

GE Information Services has announced that **DECISIONLINES**, a service supplying summaries of the latest news and trends, is now available on the GE Network for Information Exchange (Genie). General Electric Information Services Company, Rockville, MD □

The **ISOLATOR** brand of surge protectors has been improved. They now feature remote switching, power fail interruption, and 20-amp circuit options. Electronic Specialists Inc., Natick, MA □

The file compression utility **Cubit** has been upgraded to release 2.0. Its new features include spreadsheet file compression and increased flexibility for use in telecommunications. SoftLogic Solutions, Manchester NH □

**EZ-Forms Executive**, version 1.2, now has spreadsheet-style math and database merge features. It also includes over 100 user-modifiable forms for business and personal use. EZX Corporation, 403 Nasa Road, One East, Webster, TX □

**WordStar 4.0, CP/M Edition** offers more than 100 enhancements over the current CP/M version while maintaining the same look and feel. New features include stored ruler lines, macros, and onscreen boldfacing and underlining. MicroPro International Corporation, San Francisco, CA ■

## ADVERTISER'S INDEX

# How to Use the Buyer's Hotline

Each month you are exposed to several Kaypro-compatible products, both in advertising and editorial. Trying to figure out which product suits your needs and your pocketbook, is never easy. How many times do you wish you had more information on the products listed or advertised in *PROFILES*? Since we have received so many requests for information about products and companies mentioned in the magazine, we have initiated **The Buyer's Hotline**.

The Buyer's Hotline is a brand new service for *PROFILES* readers. Most reader services such as these require that the reader fill out a tedious "bingo" card and send it in, only to wait three months for a response. This time lag is usually the fault of the publication, not the advertiser. We are attempting to eliminate the time lag so you can get the information you need in a more timely manner. With one toll-free phone call, you will be able to get information on the products in each issue of *PROFILES* that interest you.

Here's how it works: Each product manufacturer or distributor will have a Hotline number. This month the numbers are listed next to the page number in the Advertiser's Index. In future months, the number will also be listed within the ad itself or the Quick Reference Summary at the end of each article. Make a note of which products (and the corresponding Hotline number) you would like more information about. Then simply call our toll-free Buyer's Hotline number (1-800-4KAYPRO). Give the operator the information she requests, and that's it!

Weekly reports of our readers' product information requests will be forwarded to the manufacturers and distributors, so that you can get the information quickly... and be able to make an informed buying decision within your own time frame. We sincerely hope that this service will be of great value to all of our readers.

Advertiser	Page No.	Hotline #
Advanced Concepts E&C	15	111-45
American Micronics	7	001-45
Bytel Corporation	5	019-45
CDE Software	9	158-45
Central Computer Products	Inside Front Cover, 1 20, Inside Back Cover	014-45
CLASSIFILES	53	----
Computer Friends	61	209-45
Computer Professionals, Inc.	28	022-45
E-Z Systems	65	020-45
Hurd Computers Systems	8	162-45
Intersecting Concepts	21	340-45
James River Group	Back Cover	048-45
Kaypro Corp.	27	153-45
Kaypro General Store	2	152-45
PROFILES BACK ISSUES	45,46	----
Southwest Computing	8	371-45
Spectre Technologies	23	156-45
Traveling Software	29	999-45
U.S. Computer Supply	25	172-45

Listed below are the companies and Hotline numbers for those products mentioned in our editorial features this month.

Product	Hotline #
Checks and Balances	158-45
Andrew Tobias' Managing Your Money	902-45
Sylvia Porter's Your Personal Financial Planner	903-45
Personal Portfolio Manager	904-45
Reflex: The Analyst	905-45
Boeing Graph 2.0	906-45
WordStar 4.0 CP/M Edition	907-45



# CP/M Software & Hardware Bonanza

Description	Price	Description	Price
<b>Accounting</b>		<b>Project Management</b>	
Checks & Balances	\$ 64	Milestone	\$ 95
Financial Calculator	\$ 34	<b>Utilities, General</b>	
Home Inventory Plus	\$ 37	Backgrounder	\$ 45
<b>Business</b>		DateMate	\$ 29
Bottomline V	\$199	DateStamper, Kaypro	\$ 39
Decision Analyst	\$ 79	DateStamper, General	\$ 46
Landlord	\$495	dFastest	\$ 49
MarketFax	\$395	FastBack 10/20	\$ 89
VWA Statpak	\$219	FastPak Mail	\$ 74
Valonick StatPak	\$429	FeatureFormat Prof.	\$ 74
Valonick Forecast +	\$495	Free Filer 5.0	\$ 79
<b>Communications</b>		Media Master	\$ 37
Crosstalk	\$145	Memory Typewriter	\$ 39
Vite	\$ 49	Presto	\$ 37
<b>Database</b>		SmartKey V4.2	\$ 49
iBase II	\$389	SmartPrint	\$ 25
Filebase	\$ 99	SmartKey/SmartPrint	\$ 59
YI 3000 Plus	\$339	<b>Utilities, Disk</b>	
InfoStar	\$179	C/Nix	\$ 54
Notebook	\$ 64	Diagnostic II	\$ 99
Personal Pearl	\$149	Disk Doctor	\$150
SuperFile	\$ 79	FastBack 10/20	\$ 89
<b>Educational</b>		PluPerfect Writer 2.2E	\$ 39
Family Roots	\$159	PluPerfect CP/M 2.2E	\$ 32
Ching	\$ 29	Rescue & Repair	\$ 55
Home Appraiser	\$ 34	UniDos	\$ 59
Language Tutor	\$ 47	UniDos w V20	\$ 89
Memory Tutor	\$ 47	Uniform	\$ 59
Reading Professor	\$ 57	<b>Spreadsheets</b>	
Self Search	\$ 39	MultiPlan	\$169
The Word (Bible)	\$179	SuperCalc 2	\$235
Touch & Go Typing	\$ 28	<b>Training</b>	
Quiz Writer	\$ 47	ATI Basic	\$ 42
UnderStand Yourself	\$ 24	ATI dBase II	\$ 69
<b>Entertainment</b>		ATI CP/M	\$ 42
Best of Wok Talk	\$ 27	ATI Multiplan	\$ 69
Computer Chef	\$ 27	<b>Word Processing</b>	
Chocolate Bytes	\$ 27	Bibliography	\$ 54
Deadline *	\$ 45	Biblio & Footnote	\$ 99
Eliza	\$ 22	Footnote & Pair	\$ 54
Enchanter *	\$ 37	Grammatik I	\$ 69
HitchHikers Guide *	\$ 37	Index	\$ 79
Infidel *	\$ 39	MathStar	\$ 49
Lotto Master	\$ 25	MicroPro Mailmerge	\$ 89
MyChess	\$ 31	Number	\$ 55
Wishbringer *	\$ 37	Punctuation & Style	\$ 95
Witness *	\$ 37	Thoughtline Outliner	\$ 59
Word Wiggle	\$ 27	Word Finder	\$ 69
Zork I *	\$ 39	StarIndex	\$ 89
Zork II or III *	\$ 39	Superwriter	\$175
* Infocom games		<b>Supplies</b>	
<b>Graphics</b>		3M SSDD Kaypro/Box	\$ 12
Banner Plus	\$ 25	3M DSDD Kaypro/Box	\$ 14
Fancy Font	\$155	3M Head Cleaning Kit	\$ 21
FontStar	\$ 49	3M KeyBd Static Mat	\$ 34
PrintMaster	\$ 49	Board Disk Malters/10	\$ 9
Art Gallery I	\$ 39	10 ft Parallel cable	\$ 29
Art Gallery II	\$ 29	10 ft Serial cable	\$ 23
Rembrandt 3.0	\$ 39	Smart Cable RS232	\$ 47
Rembrandt II/IV	\$ 47	Juki Printwheels	\$ 19
SCS-Draw 1.1	\$ 57	NEC ELF Thimbles	\$ 22
Draw Image Ext	\$ 19	Brother Printwheels	\$ 25
Twist & Shout	\$ 32	<b>Bookware</b>	
<b>Integrated Software</b>		Comp Kaypro CP/M	\$ 13
T/Maker Integrated	\$189	CP/M Handbook	\$ 15
<b>Languages</b>		Online Research	\$ 24
Cobol Compiler	\$189	Practical WordStar	\$ 19
Fortran Compiler	\$189	RS232 Solution	\$ 19
Macro Assembler	\$ 99	Star Power	\$ 16
MBasic Compiler	\$239	See our MSDOS ad in this publication for other supplies including Hush Portable printers, 64k Printer Buffer, SmartTeam 1200AT modem, Juki 6100 tractor, Personal computer toolkit, Data Spec lifetime data switches, and Dots Perfect printer upgrade.	
MTBasic Compiler	\$ 67		
SuperSort	\$139		
Toolwork's C	\$ 46		
Toolwork's C Mathpak	\$ 27		
Turbo Pascal	\$ 59		
Turbo Tutor	\$ 32		
Turbo Database	\$ 49		
Turbo Holiday Pak	\$135		

Prices subject to change without notice.

## Power Monster Surge Protection

.....from



Photo: Panamax  
6 outlets LC S RB NF.

Catalog #	Description	List Central
PX1	Max 1 outlet, direct plug in	69.00...\$49
PX2	Max 2 outlet, direct plug in	79.00...\$59
PX4	Max 4 outlet, 15 amp CB, 6 ft cord	89.00...\$69
PX6	Max 6 outlet, 15 amp CB, 6 ft cord	99.00...\$79
PXSUS	SuperMax 4 outlet, 15 A. CB, brownout, phone jack	149.00...\$99
PXT1	TeleMax 1 outlet, direct, Phone jack	89.00...\$69
PXT4	TeleMax 4 outlet, 15 amp CB, 6 ft cord, Phone jack	129.00...\$89
PXDA	DataMax, Phone jacks only	49.00...\$39
POW4400	Watt PowerMax Uninterruptable Power Supply	695.00...\$499
POW8800	Watt PowerMax Uninterruptable Power Supply	995.00...\$779

"Power line-associated problems are estimated to cause nearly 70 to 90 percent of the malfunctions in the IBM PC."

"Overvoltage can be fatal to both data and hardware alike."  
P.C. Magazine, March 1983

**PanaMax**  
**5 Year**  
**Repair or**  
**Replacement**  
**Warranty**  
On All Surge Suppressors

## CP/M Speed Demon on Your PC

# UniDOS

Would you like your CP/M programs to run faster? Our high speed Z-80 card (8 MHZ with no wait states) will let you run your CP/M programs on an IBM PC or compatible at speeds 2 to 4 times faster than they run on most CP/M computers. When you purchase this Z-80 card, you get the high speed version of the UniDOS software package - the most comprehensive CP/M emulator available. With UniDOS you can create a complete Z-80 CP/M version 2.2 compatible environment on your IBM PC or compatible. Have the benefits of a DOS computer with its faster and more cost effective disk storage and still run your favorite CP/M programs. Your programs will never know the difference. The Z-80 card will not interfere with the normal operation of your IBM PC or compatible. \$175. Catalog #UNID

Order now and get **Uniform-PC FREE**. Uniform-PC is the most comprehensive program available today for reading, writing, and formatting with your PC, diskettes of other formats, including 8, 5.25, and 3.5 inch formats.

- Uses 8 mhz processor speed
- Includes 64k of on-board memory
- Includes the high speed version of UniDOS software
- Runs Z-80 and 8080 programs faster on the IBM PC
- Fits in a half size expansion slot
- 1 year warranty

Minimum System Requirements

PC/XT/AT or compatible, 128k, DOS 2.0+, 1 half slot

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- \$150 plus • get \$15
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- \$250 plus • get \$25



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Check enclosed <input type="checkbox"/> Money Order enclosed <input type="checkbox"/>	
Visa/Mastercard #	
American Express Card #	
Exp. Date	Sig.
Name	
Address	
City	State Zip
Credit Card phone orders accepted.	
<b>CALL TOLL FREE</b>	
To order by mail use coupon, letter, or photo copy. Thank you.	

**FREE!**

**TECH SUPPORT**  
**(805) 524-4189**





# ACCOUNTING FOR MICROS



**\$395** Set of Four  
**\$325** Set of Three  
**\$465** Set of Five

**ACCOUNTING FOR MICROS** is a set of integrated accounting programs which meet professional standards. They're fast and easy to use, with complete instructions. Our manual (shown above) also includes helpful information on bookkeeping and computers.

**GENERAL LEDGER ..... \$125**  
 Allows up to 1,000 accounts & 1,000 transactions/month. Retains mo/end balances for Last year, This Year and Forecast. Includes Cash Disbursements, Cash Receipts and General Journals. Reports include Balance Sheet, Income Statement, Annual Summaries and Journal Reports.

**ACCOUNTS RECEIVABLE ..... \$125**  
 Allows up to 2,500 customers and 1,000 invoices per month. Invoicing can access Inventory Module. Keeps customer names and addresses. Invoice prints on plain paper or any pre-printed form. Statements can be printed at any time.

**INVENTORY ..... \$125**  
 Allows up to 4,000 parts. Keeps 3 month history of unit sales as well as year to date. With AR, can be used as point of sale system (prints invoices, handles cash). Reports include Inventory Value and Stock Report, Internal and Customer Price List.

**ACCOUNTS PAYABLE ..... \$125**  
 Allows up to 500 vendors and 600 invoices/mo. Records invoices and handwritten checks. Prints computer checks on any pre-printed form. Keeps vendor names and addresses.

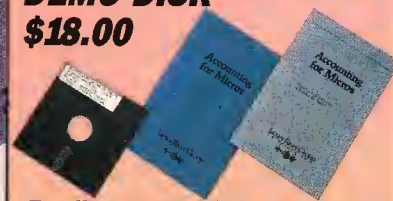
**PAYROLL ..... \$125**  
 Will handle up to 100 employees with eight deductions per employee. Deductions may be determined as fixed dollar amounts or percentages, or referred to a table for automatic look-up. Tax tables are easily entered, or purchased separately. Prints checks and W2's.

**SET OF FIVE ..... \$465**  
**SET OF FOUR ..... \$395**  
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